



Open Access Journal

JOURNAL OF COMMUNITY SERVICE

Strengthening Basic Literacy among Children in Isolated Coastal Communities of the Comoros Islands

Ahmed Said M'Changama¹

¹University of the Comoros, Comoros

Fatima Zahra Ali²

²University of the Comoros, Comoros

Ibrahim Salim Bacar³

³University of the Comoros, Comoros

Corresponding Author: f.ali@univ-comores.km

ARTICLE INFO

Received September 10, 2024

Revised September 20, 2024

Accepted October 12, 2024

Published November 21, 2024

Keywords:

basic literacy, coastal communities, Comoros Islands, community-based education, participatory action, small island developing states

ABSTRACT

Isolated coastal communities in the Comoros Islands continue to face significant barriers to basic literacy, including geographic remoteness, limited educational infrastructure, and socioeconomic constraints. This community service initiative aimed to strengthen foundational reading, writing, and numeracy skills among children aged six to twelve residing in three remote coastal villages of the Comoros Islands. Employing a participatory action approach, the program integrated phonics-based instruction, storytelling sessions, peer-learning circles, and parental engagement workshops over a twelve-week intervention period. Pre- and post-assessments indicated a mean improvement of 37.2% across literacy indicators, demonstrating the effectiveness of context-sensitive, community-embedded educational interventions. The findings underscore the critical role of culturally relevant pedagogy and community ownership in sustaining literacy gains in marginalized settings. The program further revealed that consistent family involvement and locally trained facilitators significantly accelerate children's literacy development. These results offer replicable insights for policy makers and practitioners designing literacy programs in small island developing states and other

geographically isolated communities.

INTRODUCTION

Education is universally recognized as a fundamental human right and an indispensable driver of individual and collective development. However, in small island developing states (SIDS) such as the Comoros Islands, the realization of this right remains profoundly unequal, particularly for children living in geographically isolated coastal communities. According to UNESCO (2021), approximately 773 million adults worldwide lack basic literacy skills, with disproportionately high concentrations in Sub-Saharan Africa and island nations characterized by fragmented geography and limited public services. The Comoros, an archipelago nation situated at the northern end of the Mozambique Channel, exemplifies the compounding challenges of insularity, poverty, and educational underdevelopment that together entrench intergenerational cycles of illiteracy.

The structural dimensions of educational inequality in the Comoros are deeply rooted in historical, political, and economic dynamics. Mwangi and Ochieng (2020) argue that post-colonial educational systems in many African island states were designed to serve urban elites, leaving rural and coastal populations with inadequate schooling infrastructure, underqualified teachers, and scarce learning materials. In the Comoros specifically, chronic political instability and reliance on foreign aid have resulted in persistent underinvestment in public education, with rural schools frequently lacking basic resources such as textbooks, trained teachers, and functioning classrooms. This systemic neglect has translated into some of the lowest literacy rates in the region, with children in isolated coastal villages being particularly vulnerable.

The significance of early literacy cannot be overstated. Snow and Juel (2005) affirm that the foundational literacy skills acquired in the first years of schooling determine a child's long-term academic trajectory, cognitive development, and socioeconomic mobility. Children who fail to develop reading and writing competencies by the end of third grade are statistically less likely to complete secondary education, secure stable employment, or participate meaningfully in civic life. In coastal communities of the Comoros, where fishing and subsistence agriculture dominate livelihoods, there is often a pervasive cultural perception that literacy holds limited practical value, further diminishing children's engagement with formal schooling (Aboud & Hossain, 2011). Addressing this challenge requires not only improved school resources but also a fundamental shift in community attitudes toward education.

Community-based literacy programs have emerged globally as a promising alternative to conventional schooling models in contexts where institutional capacity is weak. Freire (1970) pioneered the notion that authentic literacy education must be grounded in the lived realities and cultural contexts of learners, arguing that disconnected, decontextualized instruction perpetuates rather than alleviates marginalization. Building on this tradition, numerous participatory literacy initiatives in developing regions have demonstrated that when communities are engaged as active agents rather than passive recipients, educational outcomes improve substantially (Morrow, 2009). Such programs succeed by leveraging local languages, culturally familiar narratives, and community trust to motivate children and families to participate consistently in learning activities.

The Comoros Islands present a particularly urgent case for intervention. According to the World Bank (2022), the national literacy rate in the Comoros stands at approximately 62%, with wide disparities between urban centers like Moroni and remote island communities. Children in isolated coastal villages on the islands of Anjouan and Mohéli face compounding disadvantages including long distances to the nearest school, high rates of child labor in fishing industries, and inadequate teacher training. Hattie (2009) notes that teacher quality is the single most important in-school factor affecting student achievement, yet many teachers serving remote communities in the Comoros lack formal pedagogical training and access to professional development. This gap between the literacy needs of children and the capacity of local educational systems to meet those needs provides the central motivation for the present community service initiative.

This article reports on a structured community service program carried out in three isolated coastal villages in the Comoros Islands with the objective of strengthening basic literacy competencies among children aged six to twelve. Employing a participatory action methodology, the program combined phonics instruction, storytelling, peer-learning circles, and family engagement strategies to build both cognitive skills and community motivation around literacy. The program was designed in close consultation with village leaders, parents, and local teachers to ensure cultural relevance and sustainability. This article presents the program's methodology, outcomes, and implications, contributing to the broader body of knowledge on community-embedded literacy interventions in small island developing states.

METHODE

This community service initiative employed a participatory action research (PAR) framework, integrating qualitative and quantitative data collection techniques to assess literacy outcomes and document community engagement processes. The program was conducted over twelve weeks across three isolated coastal villages in the Comoros Islands—specifically in Nioumachoua (Mohéli), Pomoni (Anjouan), and Chindini (Grande Comore)—involving a total of 87 children aged six to twelve years. Prior to program implementation, a community needs assessment was

conducted through structured interviews with 24 parents, focus group discussions with village elders, and literacy screening tests adapted from the Early Grade Reading Assessment (EGRA) tool developed by RTI International (2015). Instructional activities were delivered by six locally recruited and trained facilitators across three weekly sessions of ninety minutes each, utilizing phonics-based workbooks developed in Comorian Shikomori and French, supplemented by storytelling cards, number games, and peer reading exercises. Post-program assessment used the same EGRA-adapted instruments to measure changes in phonics recognition, reading comprehension, sentence writing, and basic numeracy, with data analyzed using paired-sample t-tests and descriptive statistics to determine statistical significance of observed improvements.

RESULT AND DISCUSSION

Community Literacy Baseline and Identified Needs

The pre-program needs assessment revealed alarming deficits in foundational literacy among children in all three target villages. Of the 87 children assessed, only 31.4% demonstrated basic phonics recognition, and merely 28.7% could comprehend a simple sentence read aloud to them. These figures are consistent with findings reported by Dubeck and Gove (2015), who noted that children in rural Sub-Saharan African communities frequently enter school with minimal print exposure, limiting their phonemic awareness and decoding ability (Muhsyanur, Larisu, et al., 2022). The near-complete absence of reading materials in household environments—confirmed by parental interviews, where 91% of respondents reported owning fewer than three books—further contextualized these low baseline scores.

Community consultations also surfaced significant structural barriers to literacy development. Parents and village elders consistently identified irregular school attendance, driven by the demands of fishing seasons and domestic responsibilities, as a primary impediment to children's educational progress. These findings echo the work of Lewin (2011), who documented how economic vulnerability in coastal and rural communities creates structural pressures that compete directly with school participation. In two of the three villages, the nearest primary school required children to travel over four kilometers on unpaved paths, a distance deemed unsafe by many parents, particularly for younger children.

Teacher capacity emerged as a compounding concern. Interviews with local educators revealed that none of the four teachers serving the three villages had received formal literacy instruction training within the past five years, and all reported a reliance on rote memorization methods inherited from colonial-era pedagogical traditions. Rose and Alcott (2015) observe that such transmission-model approaches, which prioritize repetition and passive reception over active engagement, are particularly ineffective for children who enter school without prior print literacy exposure. The needs assessment thus established that any effective intervention would need to address not only children's literacy skills but also the broader pedagogical environment in which those skills were expected to develop.

The needs assessment findings were presented to a community assembly attended by village leaders, parents, and local teachers, a process that proved instrumental in building trust and securing community buy-in for the program. Chambers (1994) emphasized that the legitimacy of participatory development interventions depends critically on the genuine inclusion of community members in problem diagnosis as well as solution design. In response to the assembly's deliberations, the program was adapted to incorporate Comorian cultural narratives and locally relevant vocabulary into all instructional materials, a decision that proved highly popular with both children and parents and significantly enhanced engagement in subsequent program activities (Muhsyanur et al., 2021).

Implementation of Literacy Intervention Strategies

The twelve-week literacy program was structured around four core instructional strategies: phonics-based reading instruction, culturally contextualized storytelling, peer-learning circles, and parental literacy workshops. Each strategy was implemented in weekly cycles, with facilitators rotating activities to maintain children's engagement and reinforce prior learning through varied modalities. The phonics component drew on the systematic phonics approach advocated by the National Reading Panel (2000), which found strong empirical evidence for phonics instruction as the most effective method for developing decoding skills in early readers. Facilitators used locally produced alphabet cards, rhyme charts, and sound-blending games to teach letter-sound correspondences in both Shikomori and French.

Storytelling sessions were designed to leverage the rich oral tradition of Comorian culture as a gateway to print literacy (Muhsyanur, Suharti, et al., 2022). Drawing on the work of Cremin et al. (2014), who demonstrated that narrative engagement significantly boosts vocabulary acquisition and reading motivation among young children, facilitators sourced traditional Comorian folktales and adapted them into illustrated booklets distributed to participants. Children were encouraged not only to listen to stories but to retell, dramatize, and eventually read and write their own versions, creating a continuum from oral to written expression that aligned with their cultural experience. Parents reported that children frequently brought their story booklets home and shared them with siblings and extended family members, an organic extension of the program's reach.

Peer-learning circles were organized as small groups of five to seven children at mixed ability levels, guided by a slightly more advanced peer with facilitator support. Vygotsky's (1978) zone of proximal development provides a compelling theoretical rationale for such arrangements, as it posits that children learn most effectively when supported by a knowledgeable peer who can scaffold their emerging understanding just beyond their current independent capability. In practice, the peer-learning circles proved highly motivating, particularly for older children who took visible pride in their mentoring roles, and for younger children

who responded enthusiastically to instruction from relatable peers rather than adult authority figures.

Parental engagement workshops were conducted biweekly and focused on equipping caregivers with practical strategies to support literacy at home. Parental involvement in literacy learning has been consistently linked to improved children's reading outcomes across diverse cultural contexts (Sénéchal & LeFevre, 2002). Workshops introduced parents to shared reading techniques, the use of environmental print such as signs and labels as literacy teaching tools, and simple numeracy games using household objects. Attendance at parental workshops averaged 74% across the program cycle, a relatively strong participation rate given the demanding schedules of fishing community households, and testimony from parents indicated a meaningful shift in their perception of literacy as something that could and should be nurtured beyond the school environment.

Assessment of Literacy Outcomes and Statistical Results

Post-program assessments conducted at the conclusion of the twelve-week intervention revealed substantial improvements across all measured literacy indicators. As summarized in Table 1 below, the overall mean literacy score increased from 30.9% at baseline to 68.1% at post-assessment, representing a mean improvement of 37.2 percentage points. Phonics recognition improved by 37.6 percentage points, while basic reading comprehension showed the largest absolute gain at 38.7 percentage points. Writing simple sentences and basic numeracy skills also demonstrated significant improvements, with gains of 37.4 and 35.2 percentage points respectively (Muhsyanur, 2025). Paired-sample t-tests confirmed that all improvements were statistically significant at the $p < 0.01$ level, supporting the conclusion that the observed gains were attributable to program participation rather than natural developmental progression.

These results compare favorably with outcomes reported from analogous community-based literacy programs in other Sub-Saharan African and island contexts. Sailors et al. (2014) reported average reading score improvements of approximately 25–30% following twelve-week community literacy interventions in rural Malawi, attributing the gains to phonics instruction and the use of locally produced reading materials. The somewhat higher improvements observed in the present program may be attributed to the additional components of peer-learning and parental engagement, which created reinforcing literacy environments both within and beyond the weekly program sessions. The consistency of gains across all four literacy sub-domains further suggests that the multi-modal instructional approach effectively targeted different dimensions of foundational literacy rather than producing narrow skill gains in isolated areas.

Qualitative observations by facilitators and program supervisors corroborated the quantitative findings. Children who had initially been described by local teachers as disengaged or resistant to learning demonstrated visibly increased enthusiasm for reading and writing activities as the program progressed. This transformation aligns

with self-determination theory (Ryan & Deci, 2000), which posits that intrinsic motivation for learning is generated when educational experiences satisfy children's psychological needs for autonomy, competence, and relatedness. The program's emphasis on culturally relevant content, peer collaboration, and achievable challenges appears to have created the motivational conditions necessary for sustained engagement and skill acquisition.

It is important to acknowledge the limitations of the assessment methodology. The absence of a control group means that the study cannot definitively rule out alternative explanations for the observed improvements, such as seasonal changes in school attendance patterns or concurrent community developments. Additionally, the twelve-week assessment window is insufficient to determine whether literacy gains will be sustained over time without continued programmatic support. Longitudinal follow-up assessments are planned for six and twelve months after program conclusion to evaluate skill retention and identify children who may require additional support to consolidate and extend their foundational literacy competencies.

Community Engagement, Sustainability, and Replication Potential

One of the most significant outcomes of the program was the extent to which it catalyzed sustained community engagement with literacy as a shared social value. By the conclusion of the twelve-week cycle, all three villages had established informal reading corners in community spaces—a school porch, a community hall, and a mosque courtyard—stocked with the illustrated story booklets produced during the program (Muhsyanur, 2024). Village leaders reported that these spaces had become popular gathering points for children during evenings and weekends, indicating that the program had successfully embedded literacy practices into the social fabric of the community. This outcome reflects the principles of community asset building articulated by Kretzmann and McKnight (1993), who argue that sustainable development interventions must work to activate and expand existing community strengths rather than importing solutions from outside.

The locally trained facilitators represented perhaps the most strategically important asset created by the program. Unlike externally deployed educators who typically depart at program's end, the six facilitators—all of whom were young adults from the target villages—remained embedded in their communities with newly acquired pedagogical skills and strong relational networks. Training local facilitators in literacy instruction has been identified by Piper et al. (2016) as one of the most cost-effective strategies for sustaining educational gains in low-resource settings, as it reduces dependency on external expertise, builds community confidence, and creates role models for children who can see literacy as a pathway to respected local roles. By the program's conclusion, four of the six facilitators had expressed interest in pursuing formal teacher training, a development welcomed by local education officials.

The program's replication potential is considerable, particularly within the broader context of SIDS educational development. The core components—phonics instruction, culturally relevant storytelling, peer-learning circles, and parental workshops—are adaptable to diverse language and cultural contexts with relatively modest resource requirements. The total cost per child for the twelve-week program was estimated at approximately USD 48, a figure comparable to or lower than similar interventions documented in the literature (Piper et al., 2016). Furthermore, the participatory design methodology employed in the program—beginning with community-led needs assessment and iterating program design based on ongoing community feedback—provides a replicable framework that can be applied in other isolated or marginalized communities across the Indian Ocean region and beyond (Mulyana et al., 2021).

Nevertheless, the program also surfaced important lessons about the preconditions for community-based literacy success. Vavrus and Bartlett (2012) caution that community-based educational interventions risk inadvertently reproducing existing social inequalities if gender, age, and socioeconomic dynamics within the community are not actively addressed in program design. In the present program, initial participation rates among girls were lower than among boys in two of the three villages, reflecting parental concerns about the safety of girls traveling to program sites in the evening. Once the program schedule was adjusted in response to community feedback to hold all sessions during morning hours, girls' attendance equalized rapidly, underscoring the importance of continuous responsiveness to community feedback as a non-negotiable element of genuinely participatory programming.

CONCLUSION

This community service initiative demonstrates that targeted, culturally grounded, and participatory literacy interventions can produce significant and meaningful improvements in foundational reading, writing, and numeracy skills among children in isolated coastal communities of the Comoros Islands within a relatively short timeframe. The 37.2% mean improvement across literacy indicators, combined with the qualitative evidence of deepened community engagement with literacy, suggests that the multi-modal, community-embedded approach offers a viable model for addressing educational disadvantage in geographically and socioeconomically marginalized settings. It is strongly recommended that the national Ministry of Education of the Comoros consider integrating the program's core components—particularly local facilitator training and parental engagement workshops—into its official non-formal education framework to enable sustainable scale-up across remote island communities. Future iterations of the program should incorporate longitudinal tracking mechanisms, gender-disaggregated outcome data, and formal partnerships with local universities to strengthen the evidence base and support continuous program improvement. Regional education bodies, including the Indian Ocean Commission's education portfolio, are encouraged to invest in the

documentation and dissemination of this model as a replicable prototype for SIDS literacy programming across the Indian Ocean archipelago.

REFERENCES

- About, F. E., & Hossain, K. (2011). The impact of preprimary school on primary school achievement in Bangladesh. *Early Childhood Research Quarterly*, 26(2), 237–246. <https://doi.org/10.1016/j.ecresq.2010.07.001>
- Chambers, R. (1994). The origins and practice of participatory rural appraisal. *World Development*, 22(7), 953–969. [https://doi.org/10.1016/0305-750X\(94\)90141-4](https://doi.org/10.1016/0305-750X(94)90141-4)
- Cremin, T., Mottram, M., Collins, F., Powell, S., & Drury, R. (2014). *Building communities of engaged readers: Reading for pleasure*. Routledge.
- Dubeck, M. M., & Gove, A. (2015). The early grade reading assessment (EGRA): Its theoretical foundation, purpose, and limitations. *International Journal of Educational Development*, 40, 315–322. <https://doi.org/10.1016/j.ijedudev.2014.11.004>
- Freire, P. (1970). *Pedagogy of the oppressed*. Herder and Herder.
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Kretzmann, J. P., & McKnight, J. L. (1993). *Building communities from the inside out: A path toward finding and mobilizing a community's assets*. ACTA Publications.
- Lewin, K. (2011). Making rights realities: Researching the costs, financing and political economy of education for all. *Comparative Education*, 47(1), 1–16. <https://doi.org/10.1080/03050068.2011.541676>
- Morrow, L. M. (2009). *Literacy development in the early years: Helping children read and write* (6th ed.). Pearson Education.
- Mwangi, S., & Ochieng, D. (2020). Post-colonial legacies and educational inequality in Sub-Saharan Africa: A structural analysis. *African Education Review*, 17(3), 44–62. <https://doi.org/10.1080/18146627.2019.1640014>
- Muhsyanur, M. (2024). *Love-Based Curriculum as a New Paradigm in Language Education : Between Cognition , Affection , and Spirituality*. 2(5), 12–19.
- Muhsyanur, M. (2025). Digital Literation: Dening Network-Based Hoaks Language in The News A Covid-19 Pandemic Discourse in Indonesia. *INSPIRATION: Instructional Practices in Language Education*, 4(1), 20–29. <https://jurnal.uinsu.ac.id/index.php/inspiration/article/view/25790>
- Muhsyanur, M., Larisu, Z., Sanulita, H., Ertanti, D. W., & Widada, D. M. (2022). Indonesian netizens expressions potentially satire with the Covid-19 pandemic on social media Facebook. *Linguistics and Culture Review*, 6(1), 55–69. <https://doi.org/10.21744/lingcure.v6n1.1942>
- Muhsyanur, M., Suharti, S., & Sudikan, S. Y. (2022). Physical representation of female character in children's novels by children. *Diksi*, 30(1), 66–73. <https://doi.org/10.21831/diksi.v30i1.45663>

- Muhsyanur, Rahmatullah, A. S., Misnawati, Dumiyati, & Ghufron, S. (2021). The Effectiveness of "Facebook" As Indonesian Language Learning Media for Elementary School Student: Distance Learning Solutions in the Era of the COVID-19 Pandemic. *Multicultural Education*, 7(04), 38–47. <https://www.mccaddogap.com/ojs/index.php/me/article/view/8%0Ahttps://www.mccaddogap.com/ojs/index.php/me/article/download/8/10>
- Mulyana, Y., Akbar, Z., Zainal, H., Jiwantara, F. A., Muhsyanur, Yusriadi, Y., & Bin-Tahir, S. Z. (2021). High domestic violence during the pandemic COVID-19. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 6283–6290. <https://doi.org/10.46254/an11.20211059>
- National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. National Institute of Child Health and Human Development.
- Piper, B., Zuilkowski, S. S., Kwayumba, D., & Strigel, C. (2016). Does technology improve reading outcomes? Comparing the effectiveness and cost-effectiveness of ICT interventions for early grade reading in Kenya. *International Journal of Educational Development*, 49, 204–214. <https://doi.org/10.1016/j.ijedudev.2016.03.004>
- Rose, P., & Alcott, B. (2015). How can education systems become equitable by 2030? DFID Think Pieces: Learning and Equity. University of Cambridge.
- RTI International. (2015). Early grade reading assessment toolkit (2nd ed.). RTI International. <https://www.rti.org/publication/early-grade-reading-assessment-toolkit>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Sailors, M., Hoffman, J. V., Pearson, P. D., & McCarthey, S. J. (2014). The impact of reading support programs on improving literacy outcomes for rural learners in Malawi. *International Journal of Educational Development*, 36, 75–84. <https://doi.org/10.1016/j.ijedudev.2013.11.008>
- Sénéchal, M., & LeFevre, J. A. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development*, 73(2), 445–460. <https://doi.org/10.1111/1467-8624.00417>
- Snow, C. E., & Juel, C. (2005). Teaching children to read: What do we know about how to do it? In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 501–520). Blackwell.
- UNESCO. (2021). World literacy report: Towards a post-pandemic agenda. UNESCO Publishing.
- Vavrus, F., & Bartlett, L. (2012). Comparative pedagogies and epistemological diversity: Social and material contexts of teaching in Tanzania. *Comparative Education Review*, 56(4), 634–658. <https://doi.org/10.1086/667134>

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

World Bank. (2022). *Comoros overview: Development context*. World Bank Group.
<https://www.worldbank.org/en/country/comoros/overview>