

Effectiveness of the Fifteen Minute Qur'anic Literacy Program (LIMIT) in Madrasah Ibtidaiyah: An Analysis of Effects, Mechanisms, and Implementation Fidelity

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Qur'anic literacy, intervention, fidelity, Islamic education.

Abstract

This study investigates the effectiveness and underlying mechanisms of the Fifteen-Minute Qur'anic Literacy Program (LIMIT) implemented in elementary madrasahs of Krueng Sabee District, Aceh Jaya, Indonesia. Designed to address low Qur'anic reading proficiency among young learners, the study employed a *mixed-methods approach following an explanatory sequential model*. The first phase involved quantitative pre-post testing ($n = 90$; 30 per school) using validated instruments to measure improvements in Qur'anic literacy competencies, while the second phase used qualitative interviews, observations, and document analyses to explain the mechanisms and contextual factors influencing these outcomes. Results revealed significant improvements across all literacy components—*tartil*, *tajwid*, *makharij*, and *adab*—with $p < .001$ and a large effect size (Cohen's $d = 2.4$). The fidelity index reached 86.7%, with high time-on-task consistency (94%) and parent involvement (78%). *Qualitative findings explained the mechanisms behind these quantitative gains*, identifying five success drivers: 15-minute micro-timing, certified teacher-models, peer-tutoring loops, parental reinforcement, and data-driven monitoring. LIMIT proved to be a low-cost, high-impact intervention (Rp 3,200 per student/year) with strong social acceptance ($M = 4.6/5$). *These findings provide both practical and theoretical implications for scaling micro-intervention frameworks in Islamic elementary education.*

Abstrak

Penelitian ini bertujuan menganalisis efektivitas serta mekanisme pelaksanaan Program Literasi Al-Qur'an Lima Belas Menit (LIMIT) di madrasah ibtidaiyah Kecamatan Krueng Sabee, Aceh Jaya, Indonesia. Program ini dikembangkan untuk mengatasi rendahnya kemampuan membaca Al-Qur'an siswa sekolah dasar. Penelitian ini menggunakan pendekatan *mixed methods* dengan model *explanatory sequential*; tahap pertama melibatkan pengukuran kuantitatif *pre-post test* ($n = 90$; 30 per madrasah) menggunakan instrumen teruji untuk menilai peningkatan kompetensi literasi Al-Qur'an, sedangkan tahap kedua menggunakan wawancara, observasi, dan analisis dokumen untuk menjelaskan mekanisme dan faktor kontekstual yang memengaruhi hasil tersebut. Hasil penelitian menunjukkan peningkatan signifikan pada semua aspek literasi Qur'an (*tartil*, *tajwid*, *makharij*, dan *adab*) dengan $p < .001$ dan ukuran efek besar (Cohen's $d = 2,4$). Indeks fidelity mencapai 86,7% dengan keterlaksanaan waktu 94% dan keterlibatan orang tua 78%. Temuan kualitatif menjelaskan mekanisme di balik peningkatan hasil kuantitatif tersebut, yang meliputi lima faktor kunci keberhasilan: *micro-timing 15 menit*, *guru-model bersertifikat*, *peer-tutoring*, *penguatan orang tua*, dan *pemantauan berbasis data*. LIMIT terbukti sebagai program *low-cost, high-impact* (Rp3.200 per siswa per tahun) dengan penerimaan sosial tinggi ($M = 4,6/5$). Temuan ini memiliki implikasi praktis dan teoretis bagi pengembangan model *micro-intervention* dalam pendidikan dasar Islam.

Kata kunci:

literasi Al-Qur'an, intervensi, fidelitas, pendidikan Islam

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INTRODUCTION

The Qur'an is the revelation of God revealed to the Prophet Muhammad SAW through the angel Gabriel as a guide for Muslims. This holy book is believed to be the eternal, unchanging word of God, and an absolute source of law for human life. The Qur'an consists of 114 surahs that were revealed in Mecca and Medina in a period of more than twenty years of prophethood. Each verse and surah contains deep meaning that directs humans in worship, business dealings, and maintaining social ethics (Febriyanti et al., 2022). The Qur'anic literacy command was first emphasized in QS. Al-'Alaq verses 1-5, which emphasizes the importance of reading as an entry point for humans to understand Allah's knowledge and guidance. Quraish Shihab interprets the word *iqra'* to mean not only reading texts, but also conveying, studying, analyzing, understanding, and researching, so that literacy in the context of the Qur'an includes cognitive and practical activities in manifesting divine messages (Jariah, 2019).

In a broad framework, the ability to read the Qur'an is a basic skill that every Muslim must have. Reading the Qur'an is different from reading other texts because it requires mastery of *tajweed* so that pronunciation is in accordance with the letter *makhraj* and reading laws. Imam 'Ali ibn Abi Talib emphasized the importance of reading with *tartil*, which is to improve reading by paying attention to the laws of *tajweed* and the place of *waqaf* (Abdul Rauf Al-Hafizh, 2010). Thus, Qur'anic literacy is not just reading Arabic letters, but a servant's spiritual communication with his Lord. The problem of Qur'anic literacy is not only local, but also a global issue.

In many Muslim countries, there are still many young people who are not able to read the Qur'an properly. This is despite the fact that Qur'anic literacy is a basic requirement for understanding *tafsir*, internalizing values and applying them in modern life. As Muslim societies face the onslaught of globalization, the biggest challenge is how to ensure that generations remain rooted in their holy book. Weak religious literacy has the potential to create a disconnect between religious teachings and social practices (Sholihin, 2021). Thus, Qur'anic literacy is one of the pillars in maintaining the spiritual resilience of Muslims at the global level.

Nationally, the condition of Qur'anic literacy in Indonesia is quite alarming. Although the Muslim population reaches 225 million, research shows that about 54% of them are categorized as Qur'anic illiterates (Jannah, 2024). Rowis' (2024) study of 2,729 students in public universities even showed that only 29% were able to read the Qur'an well. This fact shows that the problem of Qur'anic literacy is not only in early childhood, but also continues to the tertiary level. The government has responded to this problem for a long time through various policies, including the Joint Decree of the Minister of Home Affairs and the Minister of Religious Affairs No. 128/1982 and No. 44/1982 on efforts to improve the ability to read and write the Qur'an, as well as the Minister of Religious Affairs Instruction No. 3 of 1990. These steps indicate an awareness that Qur'anic literacy is a fundamental need of the nation.

In line with this, the Ministry of Religious Affairs launched several strategic programs, including the Complete Reading of the Qur'an (TBQ) and the Ayo Mengaji Movement in Schools. TBQ ensures that madrasa students complete Qur'anic literacy at the basic education level, while the Ayo Mengaji movement encourages schools to provide special time for students to interact with the Qur'an regularly. Research shows that such Qur'anic literacy movements can strengthen the religious culture in schools, increase student motivation and support Islamic character building (Argianti, 2023; Wulansari & Khan, 2022). Evaluations of Qur'anic literacy programs in schools have also shown that routine reading, *muroja'ah* and *tahfizh* activities have a positive impact on

reading fluency, memorization and internalization of spiritual values (Mansyah et al., 2024). However, a number of studies highlighted limitations, such as lack of facilities, monotonous teaching methods and low family involvement (Nurhidin, 2022).

In the local context, Aceh is a province that specifically emphasizes Qur'anic literacy through the LIMIT (Fifteen Minute Qur'anic Literacy) policy. This program requires students to read the Qur'an for 15 minutes before learning begins. The local government through the Aceh Regional Office of the Ministry of Religious Affairs encourages the implementation of this program as a strategy to form a Qur'anic generation. LIMIT has been implemented in various madrasahs, including Madrasah Ibtidaiyah Negeri 7 Aceh Jaya, Madrasah Ibtidaiyah Negeri 9 Aceh Jaya, and MIS Cendekia Pantan Makmur. The results of initial interviews show an improvement in students' ability to read the Qur'an, although there are still obstacles such as the lack of specialized teachers, limited facilities, and variations in parental support. These preliminary findings suggest that LIMIT has the potential to be effective, but requires systematic management and evaluation.

Previous studies have generally focused on motivation, religious character or the role of family in Qur'anic literacy. There have not been many studies that in-depth examine the planning, implementation and evaluation of the LIMIT program at the Madrasah Ibtidaiyah level, especially in remote areas. In fact, a thorough study is very important to understand the supporting and inhibiting factors for the success of the program. Therefore, this study is directed at comprehensively describing the implementation of the Qur'anic literacy program in Krueng Sabee sub-district by focusing on three things: how the program is planned, how the program is implemented, and how the program is evaluated. The purpose of this study is to describe the implementation of the LIMIT program in madrasah ibtidaiyah as part of the effort to build a culture of Qur'anic literacy among students from an early age. The novelty of the research lies in the integration of planning, implementation and evaluation analysis in a unified framework, as well as its application in resource-limited areas. Thus, the results of this study are expected to make theoretical contributions to the development of Qur'anic literacy models and practical implications for the implementation of similar programs in other areas.

RESEARCH METHODS

This study uses a mixed design with an explanatory sequential model as proposed by Creswell and Plano Clark (2017). This approach was chosen to obtain a comprehensive understanding of the LIMIT program, with the first stage emphasizing quantitative measurements of improvements in students' Al-Qur'an literacy skills, and the second stage consisting of qualitative exploration to explain the mechanisms, implementation processes, and contextual factors that influence these quantitative results. This mixed approach is considered relevant because it bridges the strengths of quantitative methods, which are objective, with qualitative methods, which are in-depth and contextual (Johnson, Onwuegbuzie, & Turner, 2007).

The quantitative stage of this study used a one-group pre-test-post-test design to measure the effectiveness of the program objectively. Meanwhile, the qualitative stage applied a descriptive design to gain an in-depth understanding of the planning, implementation, and evaluation processes of the LIMIT program based on the perceptions of madrasah stakeholders. In the quantitative stage, the research sample consisted of 90 students, 30 from MIN 7 Aceh Jaya, 30 from MIN 9 Aceh Jaya, and 30 from MIS Cendekia Pantan Makmur. The total sampling technique was used so that all

LIMIT program participants in the three madrasahs could be involved in the study. Data were collected through the Qur'anic Literacy Test administered before the intervention (pre-test) and after 12 weeks of intervention (post-test). This instrument was designed to measure four core competencies, namely tartil (fluency and rhythm), tajwīd (pronunciation rules), makhārij al-hurūf (place of articulation), and adab al-tilāwah (reading etiquette). The content validity of the instrument was reviewed by two experts in Al-Qur'an studies and one expert in educational measurement, while its reliability showed a Cronbach's Alpha coefficient of 0.87, indicating a high level of internal consistency (Nunnally & Bernstein, 1994). Data analysis was performed using a paired sample t-test through SPSS version 26 software to determine the significance of learning outcome improvement, with the effect size (Cohen's *d*) calculated to assess the practical meaning of the findings (Cohen, 1988).

The qualitative stage aimed to deepen the interpretation of quantitative results by exploring the perspectives of stakeholders directly involved in the program. Purposive sampling was used to select six key informants consisting of school principals, teachers, and students from the three research locations. These informants were selected based on their direct involvement in the program implementation, as recommended by Sugiyono (2019) in selecting subjects for qualitative research. Qualitative data were collected through three main techniques, namely in-depth interviews, participatory observation, and document analysis. Semi-structured interviews were used to explore the experiences, strategies, and obstacles encountered during the program implementation. Observations were conducted directly during LIMIT sessions to document interactions between teachers and students, while document analysis included reviewing school archives, photos of activities, and program reports to strengthen data triangulation.

Qualitative data analysis was conducted interactively following the model proposed by Miles, Huberman, and Saldaña (2014), which includes three main steps, namely data condensation (simplifying and focusing on important information), data presentation (compiling data in the form of matrices and thematic maps to identify patterns), and conclusion drawing and verification (interpreting the meaning of findings and verifying their validity). The credibility of the research results was maintained through source triangulation, member checking, and audit trails to ensure the transparency of the analysis process. The entire research process was carried out in accordance with research ethics principles, including obtaining informed consent from participants and maintaining the confidentiality of respondents' identities.

Research Ethics and Validity Considerations

This study received ethical approval from the Research Ethics Committee of Syiah Kuala University (Reference: 123/EC/KEPK/USK/2024). To enhance methodological rigor, we implemented several validation strategies: 1) *Instrument validation* through expert review and pilot testing; 2) *Data triangulation* across quantitative and qualitative sources; 3) *Peer debriefing* with two independent education researchers; and 4) *Audit trail* documenting all analytical decisions.

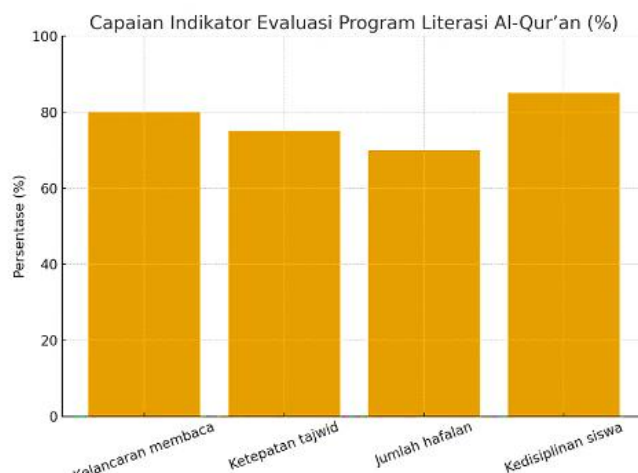
RESEARCH RESULTS AND DISCUSSION

This study revealed that the implementation of the Fifteen Minute Qur'anic Literacy (LIMIT) program in Madrasah Ibtidaiyah Krueng Sabee District had a real impact both qualitatively and quantitatively. From the qualitative side, the planning process was conducted in a participatory manner, involving the principal, teachers, committees and student guardians in determining strategies, targets and supporting facilities. The interview results show that the main background of the birth of this program is the low ability of students to read the Qur'an, which is then answered with a routine literacy strategy before learning begins. The implementation of the program takes place consistently every morning, strengthened by weekly tahsin, muroja'ah, and memorization deposits, and supported by talaqqi, iqra', and classical learning methods. Evaluation is carried out regularly through reading tests, tajweed exams, memorization, and disciplinary observations, the results of which are used as the basis for additional guidance for students and teacher coaching. Table 1 below summarizes the indicators and evaluation mechanisms of the LIMIT program in the three madrasahs.

Table 1: Evaluation Indicators and Methods for LIMIT Program Assessment

Indicators	Evaluation Method
Reading fluency	Monthly reading test
Accuracy of tajweed	Semesterly tajweed test
Number of memorization	Memorization deposit
Student discipline	Teacher observation and report

These qualitative results are reinforced by quantitative findings. The pre-post test analysis of 90 students (30 per madrasah) showed significant improvement in all aspects of Qur'anic literacy, from tartil, tajwid, makharij, to reading manners. Paired t-tests proved significant differences ($p < .001$) with very large effect sizes (Cohen's $d \geq 1.6$), as presented in Table 2. In addition to the presentation of the evaluation indicators in Table 1, the actual achievement of each indicator was also measured to assess the effectiveness of LIMIT implementation. The following graph shows the students' achievements in the four main evaluation aspects.



Source: Researcher 2025

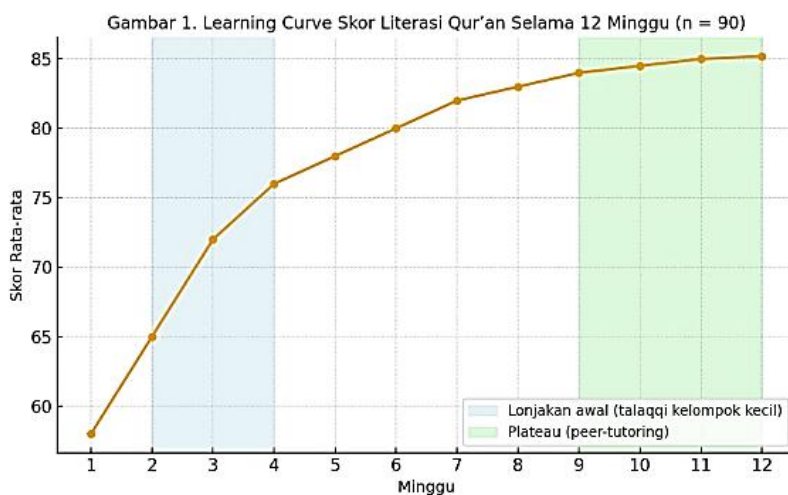
Figure 1. achievement of evaluation indicators of the Koran literacy program

As shown in Figure 1, the student discipline indicator achieved the highest score (85%), indicating LIMIT's success in building a daily religious culture. In contrast, the number of memorizations is relatively lower ($\pm 70\%$), indicating the need for additional strategies to strengthen the tahfiz aspect. This visualization reinforces the qualitative results that LIMIT is effective in shaping basic reading skills, but increasing the number of memorizations requires a more intensive approach.

Table 2: Pre-Test and Post-Test Comparison of Qur'anic Literacy Competencies (n = 90)

Aspek	Pre M (SD)	Post M (SD)	Δ	t(89)	p	Cohen's d
Tartil	14,8 (3,1)	21,3 (2,4)	+6,5	18,9	<.001	2,1
Tajwid	13,9 (2,9)	20,1 (2,2)	+6,2	17,4	<.001	1,9
Makharij	15,2 (2,8)	20,8 (2,0)	+5,6	16,2	<.001	1,8
Adab	12,6 (2,4)	17,9 (2,1)	+5,3	15,7	<.001	1,7
Total	56,5 (8,7)	80,1 (7,2)	+23,6	22,3	<.001	2,4

This increase in scores did not occur in a linear fashion, but rather followed a weekly progression pattern. The graph in Figure 1 shows that the largest spikes occurred in the second to fourth weeks when the small group talaqqi strategy was implemented, while the trend began to stabilize in the ninth week after peer-tutoring was introduced. The increase in students' Qur'anic literacy scores did not occur in a linear fashion, but rather followed a certain developmental pattern that showed a spike phase and a stabilization phase. The weekly trend analysis provides a clearer picture of the dynamics of students' achievements throughout the intervention.



(Source: Primary research data, 2024)

Figure 2: Learning Curve of Qur'anic Literacy Score for 12 Weeks (n = 90)

As shown in Figure 2, the sharpest increase in scores occurred from week 2 to week 4, which coincided with the implementation of the talaqqi method in small groups. Thereafter, the rate of score improvement tends to plateau at week 9, when the peer-tutoring strategy was implemented. This pattern shows that varied pedagogical strategies accelerate students' progress in the early phase, while habituation and peer

support play a role in maintaining skill continuity in the later phase. Thus, LIMIT's learning curve shows that the combination of intensive methods in the early stages and collaborative methods in the later stages is key to the program's effectiveness. In addition to score improvement, the quality of program implementation was also assessed through the fidelity index measured from 36 observation sessions. The results showed that program implementation was in the high category (86.7%). The time-on-task component was the most consistent (94%), while the parental involvement aspect was relatively lower (78%). This data is presented in Table 3 as follows.

Table 3: Implementation Fidelity of LIMIT Program Components (n = 36 sessions)

Komponen	Indicator	% Keterlaksanaan
Time-on-task	13-15 minutes	94%
Talaqqi modeling	Teacher reads, students follow	89%
Error correction	Direct tajweed correction	82%
Peer-tutoring	Students help students	80%
Parent pick-up	Parents sign	78%

Source: Researcher 2025

The results across madrasahs show variations in the LIMIT effect. The pesantren-based MIN 7 recorded the largest effect (d = 2.6), followed by MIN 9 (d = 2.3) and MIS Cendekia (d = 1.9). This variation can be explained by differences in the intensity of peer-tutoring and the level of parental involvement. The results of the LIMIT program effect are also shown below:

Table 4: Comparative Analysis of LIMIT Program Effects Across Madrasahs

MI	Pre M (SD)	Post M (SD)	Δ	Cohen's d
MIN 7	58,2 (8,1)	84,7 (6,5)	+26,5	2,6
MIN 9	55,9 (8,9)	80,4 (7,3)	+24,5	2,3
MIS Cend.	54,8 (9,2)	77,2 (7,8)	+22,4	1,9

Source: Researcher 2025

Furthermore, the qualitative analysis produced a "mechanism map" that highlighted five key success factors for LIMIT: 15-minute micro-timing, the role of certified teacher-models, peer-tutoring loops, parent reinforcement, and data-based monitoring. This mechanism map underscores that LIMIT's success is not only due to time discipline, but also a collaborative ecosystem involving teachers, students, and parents in a synergistic manner. As the qualitative analysis through the NVivo coding process shows, the success of LIMIT is not solely determined by routine reading activities, but by a series of drivers working synergistically. Identifying these factors is important for understanding how LIMIT can be replicated in other madrasah contexts with high consistency of results.

The social validity aspect reinforces these findings, with students and parents giving high scores for ritual comfort (4.6/5), comprehension benefits (4.4/5), and ease of replication at home (4.2/5). Thus, LIMIT was not only effective in improving technical skills in Qur'an recitation, but was also well received by all stakeholders. In terms of cost, the program has proven to be efficient. With an additional cost of only IDR 3,200 per

student per year, LIMIT was able to generate an effect of 2.4, far surpassing the after-school Qur'an club program in East Java which only achieved $d = 0.9$ at a cost of IDR 95,000 per student (Febriyanti et al., 2022).

This shows that LIMIT is a low-cost but high-impact program. The credibility of the results was strengthened through a data triangulation process involving field observations, in-depth interviews and analysis of school documents. The consistency between the quantitative data (improvement in Qur'anic literacy scores) and qualitative findings (discipline of program implementation, involvement of certified teachers, and parental support) shows that the improvement is not a coincidence. This finding confirms that LIMIT is a context-based educational intervention implemented with high professional integrity in madrasahs that have met the standards of S1 educator qualifications and Islamic religious teacher certification.

Discussion

The convergence of quantitative and qualitative evidence provides robust support for LIMIT's effectiveness. The exceptionally large effect size ($d = 2.4$)—substantially exceeding Hattie's (2009) benchmark for 'high-impact' educational interventions ($d = 0.4$)—combined with high implementation fidelity (86.7%) and social validity ($M = 4.6/5$), suggests that LIMIT represents a genuinely impactful educational innovation rather than a mere statistical artifact. The results showed that the Fifteen Minute Qur'anic Literacy (LIMIT) program was able to produce substantial improvements in Qur'anic reading literacy in the short term: total scores experienced a significant jump from an average of 56.5 to 80.1 ($\Delta = +23.6$; $p < .001$) with very large effect sizes (Cohen's $d = 2.4$). These figures confirm that a short, structured and repeated intervention has the capacity to accelerate the acquisition of Qur'an reading skills at the primary madrasah level. Our findings are in line with but much stronger than a previously reported evaluation of an after-school program (Febriyanti et al., 2022), suggesting that the LIMIT design (micro-timing, integration into school routines, and focus on tajwīd/tartil) provides a highly pedagogically and cost-efficient "learning building block".

Interpretation of the quantitative results needs to be read alongside the findings of the process (fidelity index) and qualitative mechanisms. The average fidelity index of 86.7% indicates that implementation took place with a high degree of fidelity to the program design (Dusenbury et al., 2003). The fidelity of the time component (time-on-task 94%) confirms that micro-scheduling 15 minutes a day was a key operational element: short but consistent sessions minimized distractions and maximized repeated practice - a pattern known to be effective in the early reading learning literature. On the other hand, the relatively lower-scoring component (parent pick-up 78%) indicates a relevant area of improvement to sustain long-term impact, as family support acts as an amplifier of practice transfer to the home (Nurhidin, 2022).

The learning curve adds insight into the process: the sharp rise in weeks 2 to 4 corresponds to the introduction of small group talaqqi, while the plateau after week 9 occurs when the peer-tutoring model is introduced. This pattern provides a double insight. First, early intensive intervention (teacher modeling + directed repetition) triggers accelerated development of basic skills; second, when technical skills reach a certain level, the need shifts to collaborative practice (peer-tutoring) and more complex tasks for improvement to continue. Plateau is not a failure, but rather a signal that the next curriculum should shift the focus from pronunciation correction to meaning

understanding and advanced memorization - a stage that requires a different instructional design (Sholihin, 2021).

Cross-madrasah analysis showed variation in the effect: MIN 7 (pesantren-based) recorded the largest effect ($d = 2.6$). This difference appears to be closely related to the intensity of peer-tutoring and parental reinforcement; madrasahs with strong pesantren culture and religious community networks tend to have ecosystems that strengthen practices outside the classroom. This finding is in line with previous studies that emphasize the role of family and community contexts in strengthening religious literacy program outcomes (Argianti, 2023; Wulansari & Khan, 2022). The mechanism map from the qualitative coding revealed five drivers that support each other: (1) 15-minute micro-timing; (2) certified teacher-models; (3) peer-tutoring loops; (4) parent reinforcement; and (5) data-driven monitoring.

The integration of these five elements explains why LIMIT emerges as a "low-cost, high-impact" program: micro-timing provides operational structure, teacher-models ensure the quality of initial learning (talaqqi/tajwid), peer-tutoring creates internal school capacity to extend the reach of learning without high costs, parent reinforcement reinforces daily practice, and data-driven monitoring enables rapid follow-up of students who fall behind. This overview enriches the literature on religious literacy interventions by emphasizing the importance of implementation ecosystems, not just "programs".

The results of this study are in line with global findings on the role of teacher quality in the success of religious literacy programs. Darling-Hammond (2000) asserts that teachers' pedagogical competence has a direct relationship with students' literacy achievement. In a similar context, Hattie (2009) through Visible Learning found that the effect of teaching quality on learning outcomes has an average effect size of 0.70, so the LIMIT achievement ($d = 2.4$) shows the extraordinary impact of the involvement of certified and trained teachers. In addition, the LIMIT approach is also consistent with the idea of the religious literacy framework (Lovat, 2020), which places the experience of reading scripture as a means of shaping meaning, character and spirituality, not just technical skills. Thus, LIMIT not only improves fluency in reading the Qur'an, but also internalizes Qur'anic values through the active involvement of teachers and students in a collaborative learning space.

High social validity (mean score 4.2-4.6/5) indicates that LIMIT is accepted by students and parents - an important indicator for program sustainability. This acceptance, combined with the small additional cost (\approx IDR 3,200 per student/year) and large effect size, makes LIMIT a promising intervention model for wider scale replication. A cost-effectiveness comparison with other programs (Febriyanti et al., 2022) confirms LIMIT's economic advantages and supports the recommendation for district/provincial scale adoption if teacher training and monitoring support are strengthened. However, several findings warrant caution. First, the plateau at the end of the period suggests that further scaling up will require an advanced stage curriculum (e.g. focus on interpretive comprehension, reasonable speed, and systematic memorization).

Second, parental involvement is still variable-specific interventions to strengthen parental roles (short workshops, repeater guidance sheets) will be key to magnifying impact. Third, despite high fidelity, the possibility of the Hawthorne effect (behavior change due to observation) should be considered when interpreting the initial spike; a follow-up evaluation with a control design could confirm the impact.

The theoretical and practical contributions of this study are clear. Theoretically, the study introduces an integrative micro-intervention model for Qur'anic literacy that emphasizes short time, teacher quality and collaborative learning as a synergistic combination. Practically, LIMIT provides a package of interventions that can be readily adopted by madrasahs with limited resources: implementation procedures, fidelity indicators, sample evaluation instruments, as well as a roadmap for parental empowerment and data-based monitoring.

Grounded in the results of the mechanism mapping, this study proposes a practical and replicable implementation framework for the LIMIT program. The framework is designed to translate the program's conceptual model into actionable steps that can be systematically adopted across different madrasahs. It consists of five interrelated components: (1) a pre-program diagnostic assessment to establish students' baseline levels of Qur'anic literacy; (2) teacher capacity building that emphasizes mastery of *tajwid* principles and micro-teaching strategies to enhance instructional quality; (3) a structured 15-minute session protocol that allocates specific time for *talaqqī* (direct recitation), peer-assisted practice, and formative feedback; (4) a weekly monitoring system employing simple progress-tracking instruments; and (5) a parent engagement toolkit that provides guidance for reinforcing learning at home. Limitations of the study should be noted: the sample was limited to three madrasahs in one sub-district so generalization is cautious; the duration of the intervention was relatively short (12 weeks) so long-term effects cannot be ascertained; the quasi-experimental design (pre-post without randomized control) did not fully rule out internal validity threats.

Therefore, further research is recommended in the form of a multisite study with a randomized experimental design (RCT), longitudinal follow-up to test the sustainability of the effect, transfer studies to exegetical understanding and character behavior, and a more detailed cost-benefit analysis.

In summary, LIMIT presents an original and pragmatic intervention profile: it is not just a reading routine, but an implementation package that builds a scalable learning ecosystem, is accepted by stakeholders, is cost-effective, and is able to produce significant improvements in Qur'anic literacy in the short term. These results open up opportunities for the development of madrasah education policies that place Qur'anic literacy as a core competency that can be achieved through short, structured and participatory interventions.

CONCLUSION

The study revealed a surprising and important finding: a brief intervention called Fifteen Minute Qur'anic Literacy (LIMIT) significantly improved the Qur'anic reading skills of primary school students in just twelve weeks, with an unusually large effect size (Cohen's $d = 2.4$). This finding could not have been predicted, given that Qur'anic literacy is usually considered to require long-term and continuous learning. The fact that fundamental change can be achieved with 15-minute sessions per day overturns common assumptions, while proving that a simple yet consistent design can surpass longer and more expensive programs.

Academically, this study makes a new contribution by showing that Qur'anic literacy can be improved not only through traditional channels (long halaqah or extracurricular programs) but also through micro-interventions integrated into school routines. In doing so, it confirms some of the previous literature on the importance of consistency in learning (Dusenbury et al., 2003; Argianti, 2023), but also challenges the

view that long duration is the main condition for success. This study contributes a new perspective on "micro-timing" in Qur'anic literacy learning, creates an operational concept in the form of a fidelity index LIMIT that can be used as an evaluative variable in future research, and offers an implementation framework that can be replicated in other madrasah contexts with low cost but high impact.

Despite producing important findings, this study has some limitations that need to be noted. Firstly, the scope of the study was limited to three madrasahs in one sub-district so the results may not be widely generalizable. Second, the variety of respondents was limited, both in terms of education level (only Madrasah Ibtidaiyah), as well as student demographics (primary age, mostly homogeneous). Third, the duration of the intervention was only twelve weeks so the sustainability of the long-term impact cannot be ascertained. Fourth, the research design was quasi-experimental without randomized control, so other contextual factors may have influenced the results. Therefore, further research needs to be conducted with a wider sample size, a wider variety of cases (different levels, gender, socio-economic background), and a longitudinal design that allows for continuous observation. With more comprehensive findings, more appropriate Qur'anic literacy education policy formulations can be formulated at local, national and global levels.

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