



The Effect of Educational Input on Early Grade Reading Skills in Taunggyi Township

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Abstract

This study aimed to analyse the effect of educational input on early grade reading skills among students in Grades 1 to 3 in Taunggyi Township. A cross-sectional survey research design with a quantitative approach was employed. Data was collected through structured questionnaires from 300 participants, including students and their teachers. Participants were selected using a two-stage random sampling method stratified by remoteness from the Township Education Office. The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 27. Descriptive statistics and multiple regression analysis were applied to examine the relationships between educational input variables and reading skills. The results show that adult help with homework, the presence of an adult reader at home, the use of Myanmar exercise books, teacher marking, a non-remote school location, and the use of formative assessment were significant positive predictors of early grade reading proficiency. Excessive reliance on summative assessment had a negative impact. Female students and those speaking Myanmar at home performed better in reading tasks. The results highlight how family help, useful tools for studying, nearby schools, and also regular check-ins early grade reading skills in Taunggyi Township.

Keywords: Education Input, Early Grade Reading Skills, Taunggyi Township

1. Introduction

Reading is universally recognized as a foundational skill critical for academic success and lifelong learning. It gives more than just facts - it sharpens thinking, builds understanding, over time shapes how we learn (Mukhlisa, 2025). Strong reading skills help kids think clearly, weigh ideas, engage better with the world around them. Still, across the globe, many can't read well - this gap hits hard in poorer nations where money troubles, few books, mixed languages block progress (UNESCO, 2023). Myanmar's moved forward getting kids into classrooms yet struggles when it comes to real reading mastery. Even though most kids go to primary school, hardly any hit the reading goals they should. Evidence from regional assessments reveals that many Myanmar children do not acquire sufficient literacy skills by the end of primary schooling, with a notable share struggling to read beyond basic words even after multiple years in school (Bank, 2015).

The ASEAN region's efforts to improve education quality and access have yielded uneven results. Countries such as Vietnam, Malaysia, and Thailand show substantial improvements in young learner literacy through targeted reforms and interventions. On the flip side, places like Myanmar, Cambodia, Laos, plus the Philippines made little headway, especially out in country zones where multiple cultures mix (ACED, 2021). Inside Myanmar, things get tougher because of language issues - many kids learn in Burmese even though they speak another tongue at home. That setup makes picking up basic reading harder - and leads to weaker school performance for learners from smaller ethnic groups.

Recognizing these challenges, Myanmar's government has prioritized educational quality in its policy agenda, aligned with its commitment to the Millennium Development Goals MDGs and Sustainable Development Goals SDGs. Even though more kids are getting into classrooms now, people still worry whether they're actually learning well. To tackle this, the Education Ministry launched big changes through the CESR plan while using tools such as EGRA to spot weak spots in basic reading skills (Bank, 2015). This test shows exactly how children perform



when it comes to reading, pointing out where teaching needs a boost or extra help is required. On top of that, results give officials insight into family income levels, village conditions, and other real-life issues affecting school success, helping shape smarter support programs (Gove et al., 2011).

This study focuses on Taunggyi Township, the administrative centre of Shan State, which exemplifies the complex educational landscape of Myanmar. The township is characterised by ethnic heterogeneity and diverse socio-economic conditions, with varying levels of access to educational materials and quality teaching. Despite ongoing reforms, Taunggyi faces persistent issues such as high dropout rates and low literacy, particularly in early grades. Limited existing data on student learning outcomes constrain the ability to tailor educational strategies effectively. By concentrating on this context, the study provides insights into the factors shaping early grade reading skills, encompassing socio-economic status, parental involvement, language of instruction, and effectiveness (Jolliffe et al., 2016).

Understanding these influences is critical for enhancing literacy outcomes and ensuring equitable education. Strong early reading abilities build a base for staying on track in class, cutting down chances of leaving school too soon while encouraging ongoing growth (Mulcahy et al., 2016). Findings from this study add real-world data that can guide decisions in teaching and rules, aligning with Myanmar's wider aims in education plus global promises.

This study aims to examine the effect of educational input on early grade reading skills among primary school students in Taunggyi Township. Instead of just listening tools, it explores what happens when different teaching styles meet various classroom setups. Because every child learns differently, the way lessons are delivered matters a lot. So does the space where learning takes place. Results should help shape better ways to teach reading while making sure supplies go where they're needed most. Stronger reading at an early stage can open doors - not only in school but also beyond.

1.1. Conceptual Framework of Educational Inputs for Early Grade Reading Skills

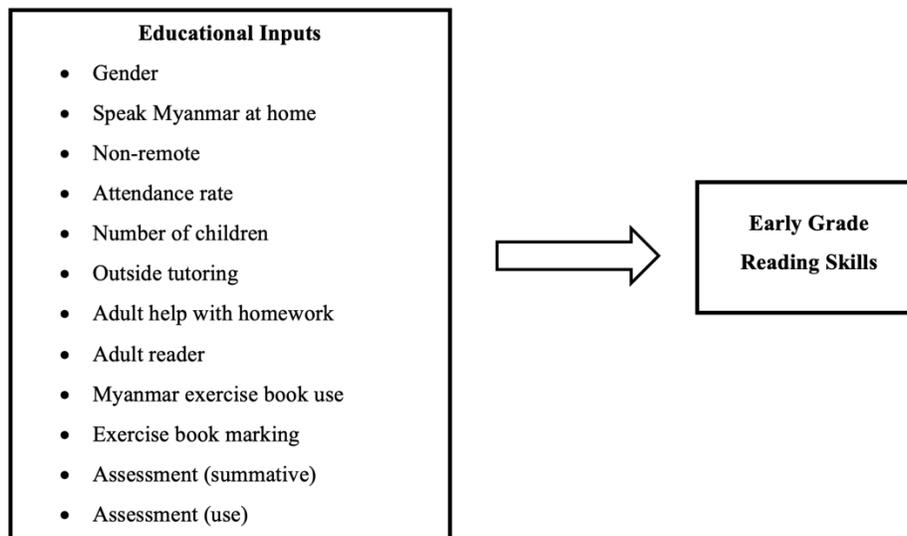


Figure 1: Conceptual Framework of Educational Inputs for Early Grade Reading Skills

Source: Adapted from World Bank, (2014)

Figure 1 shows the conceptual framework of educational inputs for early grade reading skills that represent education inputs or education support in schools and other elements affected by education policy that influence early grade reading skills.

2. Literature Review

2.1. Theory of early grade reading

Research consistently demonstrates that early reading difficulties create lasting gaps, as students who struggle in the early grades rarely catch up with their peers (Stanovich et al., 1986). In early primary grades, reading acquisition pace strongly predicts later literacy success: fluent readers improve rapidly, while struggling readers widen the gap over time. Longitudinal research confirms that children facing early reading challenges rarely overcome them, persisting through schooling.

Studies from the United States tracking children over time show reading disparities taking root in the early primary years, steadily growing larger. By the end of the first grade, good readers begin to detach from children who are having more difficulty reading and this gap persists to widen through to the end of second grade (R.H. Good et al., 1998).

Scientific research has identified five essential skills that form the foundation of proficient reading in alphabetic languages. These include phonemic awareness (hearing and manipulating sounds), alphabetic knowledge (recognizing and sounding out letters), phonological decoding (blending sounds into words), reading fluency (effortless word and text recognition), and comprehension strategies (understanding spoken or written language) according G.H. Good et al., 2001.

Phonemic awareness is the ability to manipulate sounds within a given word (Snow et al., 1998). School staff and educators keep debating if phonemic awareness training actually works for getting kids reading. Studies over time have checked its role in early reading breakthroughs and whether it helps kids who are falling behind. Before formal reading instruction, young children typically don't realize that words break into separate sounds. This awareness enables them to connect letters with sounds, building the decoding skills essential for reading. Without phonemic awareness, children who know their letters still struggle to link spoken and written language.

Children need phonemic awareness and letter knowledge to learn reading. Both are strong signs of reading readiness without realizing sounds in words and matching them to letters, plus the spark to connect the two, they won't make the link (Share, 1999). Alphabetic knowledge builds on this foundation by helping children understand that letters represent the sounds in spoken words (Wren et al., 2000). This realization allows them to "sound out" words systematically rather than relying on memorization alone. While awareness of sounds and letters provides a starting point, children need both skills working together to develop effective decoding abilities.

Decoding represents the critical process of transforming written text into spoken language to access meaning. Children must learn to apply letter-sound relationships and recognize letter patterns to read accurately and fluently. This skill doesn't develop naturally but requires deliberate instruction and practice (Share, 1999).

Reading fluency stands as a cornerstone for achieving proficient reading (S.L. Deno, 2003). Fluent readers read aloud with natural tone and conversational pace. They read accurately and quickly, using proper expression, while non-fluent readers often read slowly, make frequent errors, and sound monotonic or unnatural. Word identification fluency and automatic recognition of words serves as a strong early predictor of both fluent reading and comprehension (S.L. Deno et al., 1982).

Reading comprehension for both print and speech rests on decoding (turning text to sound) and language grasp, both indispensable. Still, they're not enough to prove kids fully get the material; findings show weak readers trip up on one, the other, or both, depending on their strengths. Kindergarten writing foreshadows later reading skill, and spelling pushes it forward causally (Shahar-Yames & Share, 2008). While forging letter-sound ties, spelling reinforces decoding and helps kids lock in word-specific patterns for better recognition.

In alphabetic languages like Myanmar, phonemic awareness, letter knowledge, and decoding skills create powerful self-teaching mechanisms (Seidenberg, 2013). When children master these foundational skills, they gain the ability to recognize words automatically, read text fluently, and comprehend what they read. Strong linguistic abilities then amplify these decoding skills to produce skilled reading comprehension.

2.2. Measuring early grade reading skills

The five fundamental reading skills are phonemic awareness, phonics, fluency, vocabulary and text comprehension. Phonics awareness is usually measured by investigating a student's knowledge of how sounds make

words. Common measures of phonemic awareness ask the student to (1) separate spoken words into parts, counting the number of phonemes, (2) mix separate sound to form a complete word or (3) add or remove a phoneme to create a new word (Wren, 2004). Phonics, evaluated via oral assessments, includes letter recognition where kindergarten and grade 1 students name alphabet letters, pseudoword decoding where grades 1-2 students sound nonsense words to test letter-sound blending, and sight-word reading where grades 1-3 students identify real words from lists; timed versions also measure naming fluency (Wren, 2004).

Vocabulary assessment blends indirect checks within broader comprehension tasks alongside direct methods. These include naming pictured objects (expressive vocabulary), matching verbal definitions to words (expressive), defining given words (receptive), spotting the odd word out in a set, supplying synonyms or antonyms, and more all deliverable orally or in writing (Velásquez Gutiérrez et al., 2021). Fluency is most frequently measured to ask a student to read a passage aloud for one minute. The number of correct words read is counted and this total equals a student's oral reading fluency rate (Hudson et al., 2005).

Comprehension, the most common yet debated reading measure, often uses passage recall where students retell stories in their own words within 4-5 minutes or question-based tasks, though no universal "best" method exists (Wren, 2004). General Outcome Measures provide a reliable, efficient framework for tracking progress in reading, spelling, and writing, helping teachers monitor instruction and identify early difficulties to guide future academic paths (S.L. Deno, 2003). Educators apply GOMs to set norms for special education referrals, evaluate program effectiveness, track progress in general classrooms, and screen candidates via dual-discrepancy models. This approach informed the Early Grade Reading Assessment (EGRA), developed in 2006 and adapted for over 65 countries and 100 languages to diagnose foundational reading in primary grades (Gove, 2009).

The Early Grade Reading Assessment (EGRA), adapted for Myanmar in 2014 (World Bank, 2014), benchmarks primary students' foundational literacy via eight subtasks from its nine-module battery. These target letter name knowledge, initial sound identification (phonemic awareness), letter sound knowledge, familiar word reading (automaticity), invented word decoding, oral reading fluency with comprehension, listening comprehension, and dictation.

Letter name knowledge scores correct upper/lowercase identifications per minute (CLNPM). Initial sounds gauge phonemic awareness through segmenting 2-5 phoneme words and spotting start/end differences (CIS). Letter sounds test phonics on random letters (CLSPM). Familiar words measure fluency on common 1-2 syllable terms (CFWPM); invented words assess grapheme-phoneme decoding (CIWPM). Oral fluency combines passage words per minute (ORF) with comprehension accuracy (CRCQ). Listening comprehension rates responses to read-aloud text (CLCQ), while dictation evaluates spelling/grammar via weighted correct words (WSC) (Gove, 2009).

2.3. Previous Studies on Early Grade Reading Skills

Numerous studies have explored factors influencing early grade reading skills using methods like ordinary least squares (OLS) regression, multiple regression, correlation analyses, and descriptive statistics. Geske et al. (2008) investigated reasons for low reading literacy among primary school students through OLS regression and found that socioeconomic status, parents' education, and preschool reading significantly impact performance, with high-achieving students enjoying reading and benefiting from extensive parental reading time. Similarly, Chevalier et al. (2013) examined intergenerational education transmission via OLS regression, revealing that maternal education causally enhances daughters' educational attainment.

In Myanmar, the World Bank (2014) established a baseline for early grade reading in the Yangon region using correlation and multiple regression analyses, identifying socioeconomic status and home educational support as key influencers and calling for targeted literacy interventions. Naidoo et al. (2014) explored educator perspectives on reading literacy in South African primary schools through descriptive statistics and reliability analysis, highlighting how lack of teacher training, large class sizes, socioeconomic challenges, second-language barriers, and the need for remedial teaching undermine reading quality.

Analytical (2015) emphasized early grade reading and EGRA findings in Indonesia via descriptive statistics, showing that decoding with comprehension, mother-tongue instruction, girls' and urban students' advantages, preschool attendance, wealth, correct age, and teaching quality boost skills, while remote areas lag

behind. Abuya et al. (2018) linked mothers' education to girls' literacy, numeracy, and self-efficacy in Kibera using multiple regression, confirming enhanced outcomes through fostered self-efficacy. Raza et al. (2019) modeled basic education determinants in South Sudan with OLS regression, underscoring how literacy and numeracy skills drive gender and socioeconomic disparities.

3. Methodology

A cross-sectional survey research design was used to investigate the effect of educational input on early grade reading skills in Taunggyi Township. It involved 300 participants comprising students from Grades 1, 2, and 3 with their teachers. Participants were selected through a two-stage random sampling method from ten schools stratified by remoteness from the Township Education Office. Info was gathered during one session in January 2025. Everyone joined freely when asked. Because of this setup, the findings reflect what was happening across those groups at that moment.

The questionnaire used in this study was adapted from a survey developed and cited by the World Bank (Bank, 2015). The questionnaires were developed collaboratively with input from students, teachers, and parents to ensure comprehensive coverage of perspectives relevant to early grade reading skills in Taunggyi Township. It was designed to gather essential data on early-grade reading skills and related influencing factors using closed-ended questions. The instrument was structured into two sections: demographic information and the effect of educational input on early-grade reading skills. The closed-ended format was chosen to facilitate efficient data collection and straightforward analysis.

The questionnaire data were collected from both remote and non-remote areas of Taunggyi Township using face-to-face questionnaire administration. Instead of sending forms online, the researcher gave them directly to kids and staff during calm moments on campus. Before starting, time was spent chatting a bit, so everyone felt at ease. Simple directions followed, outlining what the project aimed to learn - especially about teaching methods tied to young learners' reading progress. People could raise doubts anytime they didn't get something. Answers got written down carefully while talking. The info was checked with SPSS 27, using basic number summaries along with models that show how teaching links to young kids' reading ability. This way of doing things helped make sense of how different factors together shape reading success.

4. Results

The present study aimed to examine the effect of educational inputs on early-grade reading skills among students in Taunggyi Township. The data were analyzed using multiple regression analysis to examine the relationships between educational input variables and early grade reading skills.

Table 1: Profile of Students

No	Demographics Factors	No. of Respondents	Percent (%)
1	Gender	Male	52.3
		Female	47.7
2	Remoteness (Distance) from TEO	A	20.0
		B	20.0
		C	20.0
		D	20.0
		E	20.0
3	Schools	Basic Education High School	40.0

		Basic Education Secondary School	30	10.0		
		Basic Education Primary School	150	50.0		
4	Age (year)	Grade 1	6	54	54.0	
			7	40	40.0	
			≥ 8	6	6.0	
		Grade 2	7	51	51.0	
			8	40	40.0	
			≥ 9	9	9.0	
		Grade 3	7	1	1.0	
			8	38	38.0	
			9	37	37.0	
			≥ 10	24	24.0	
		Total Respondents			300	100.0

Source: Survey Data, 2025

Table 1 presents the demographic profile of the 300 students participating in this study across gender, remoteness from the Township Education Office (TEO), school types, and age distribution by grade level.

Table 2: Results of Multiple Regression Model (Educational Input)

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-51.967	125.667		-0.414	0.68		
Gender	34.459*	20.173	0.07	1.708	0.089	0.964	1.038
Speak Myanmar at home	51.029*	27.487	0.091	1.856	0.064	0.668	1.498
Non-remote	76.884***	28.037	0.152	2.742	0.006	0.519	1.928
Attendance rate	1.191	1.142	0.045	1.043	0.298	0.865	1.157
Number of Children	-12.078	7.687	-0.065	-1.571	0.117	0.937	1.068
Outside tutoring	1.311	21.426	0.003	0.061	0.951	0.862	1.16
Adult help homework	208.688***	24.633	0.418	8.472	0	0.658	1.52
Adult reader	85.548***	23.835	0.173	3.589	0	0.689	1.452
Myanmar exercise book use	110.934**	44.47	0.117	2.495	0.013	0.728	1.374

Exercise book marking	69.198**	27.146	0.122	2.549	0.011	0.702	1.425
Assessment (summative)	-28.648**	12.188	-0.115	-2.35	0.019	0.673	1.486
Assessment (Use)	33.222***	9.626	0.175	3.451	0.001	0.622	1.609
F-value	28.072***						
Adjusted R^2	0.521						

Source: Survey Data, 2025

Note: *** denotes significant at the 1% level, ** denotes significant at the 5% level, * denotes significant at 10% level

Table 2 shows the multiple regression results for educational input factors affecting early grade reading skills. Collinearity statistics show all tolerance values above 0.5 and VIF values below 2, indicating no multicollinearity issues affecting the reliability of coefficient estimates. The model explains 52.1% of the variance (adjusted $R^2 = 0.521$) and is statistically significant ($F = 28.072$, $p < 0.01$), confirming a strong relationship between the twelve educational input variables and reading skills.

5. Discussion

The Educational Inputs Model explained 52.1% of the variance in reading skills, highlighting key school and home factors influencing reading achievement. Adult help with homework was the strongest predictor at the 1% significance level, emphasizing the critical role of parental engagement. This finding aligns with Myanmar and international studies, such as Khaing (2023), which reported that students with highly supportive parents achieved significantly higher reading scores than those with less or no parental support.

The use of Myanmar exercise books and teacher marking was a significant predictor of reading development, underscoring the importance of access to learning materials and teacher feedback. These findings are consistent with the World Bank (2015), which identified exercise book use and teacher marking as key factors influencing reading score variations across schools. These findings are also consistent with teacher professional development research in Nepal (Tamang et al., 2025), which highlights institutional resource support and feedback practices as essential factors for improving instructional quality and learning results. Such practices reflect active teaching and learning, contributing to improved student reading performance.

The presence of an adult who reads in the home showed strong influence, reaching significance at the 1% level - pointing to how it boosts kids' reading growth even more than helping with homework does. That idea fits with Van Bergen et al. (2017), whose research suggested homes where grown-ups read regularly and share books out loud tend to build better word knowledge, understanding, basic abilities - in turn shaping consistent reading routines among young ones. These findings are also consistent with synthesized evidence from teacher professional development research in Nepal (Tamang et al., 2025), which identifies personal motivation and supportive home-school linkages as key enhancers of teaching efficacy and student literacy outcomes.

Non-remote location was a significant predictor at the 1% level, highlighting the positive effect of geographic accessibility on reading outcomes. Schools closer to urban centres with better transportation and connectivity to the Township Education Office showed higher reading performance, likely due to greater access to qualified teachers, resources, and support. This finding aligns with Bonilla-Mejía et al. (2024), who reported that school distance from towns and state capitals negatively impacts student test scores.

Assessment use was a significant positive predictor at the 1% level, indicating that teachers' systematic use of assessment results—both formative and summative—improves reading development. These findings on formative assessment use are consistent with teacher professional development research in Nepal (Tamang et al., 2025), which underscores ongoing feedback and reflective practices as critical mechanisms for enhancing teacher performance and student achievement. Regular assessment enables teachers to identify gaps, adapt instruction, and monitor progress, fostering a responsive learning environment. Conversely, excessive reliance on summative

assessments showed a significant negative effect at 5%, suggesting that overuse may hinder reading progress by limiting ongoing feedback essential for instructional adjustment. This aligns with Bank (2015), which found that heavy summative assessment reliance can negatively impact reading outcomes by restricting formative feedback and instructional responsiveness.

Girls did better in reading than boys, a pattern seen before. According to Bank (2015), girls in Myanmar also scored higher on literacy tests. One reason might be that girls pay more attention in class. Boys, meanwhile, often shine outside the classroom.

Speaking Myanmar language at home was a significant factor, with these students performing better in reading. This supports the Analytical and Capacity Development Partnership (2015) report (Analytical, 2015), which showed that mother tongue instruction enhances fluency and comprehension. Fluency in Myanmar language at home aligns with classroom language, improving communication and reading outcomes.

The key factors found here - like having an adult help with homework or read at home, where schools are located, access to learning tools, also how students get checked - match closely with what showed up in the Southeast Asia Primary Learning Metrics 2019 (SEA-PLM) Myanmar National Report (ACER, 2021). That earlier report, much like this one, points out how a child's main language at home, parents taking part, city versus village differences, along with solid teaching methods affect reading skills. This alignment reinforces that both national-level evidence and the present analysis point to the central importance of home literacy environments, school context, and formative assessment in shaping early grade reading outcomes.

6. Recommendation

The study found that adult support during homework or someone reading aloud at home were the strongest positive predictors of early reading skills, yet not every family gets equal chances, which cuts down the upside. Schools should strengthen parental engagement and promote home reading routines. Myanmar exercise book use and teacher marking also positively influenced achievement, highlighting the need for consistent practice and constructive feedback. Formative assessment supported learning, while over-reliance on summative testing had a negative effect, suggesting a shift toward ongoing assessment. Geographic disparities affect outcomes, with students in non-remote areas performing better, suggesting the need for infrastructure improvements and teacher incentives in remote schools. Female students pulled ahead, so did those using Myanmar language at home, showing boys lag behind - and children from different language backgrounds face steeper climbs. These gaps could get fixed by giving focused language help, using teaching that respects gender differences, improving how teachers learn their skills, or supplying better tools. Further research should explore the most effective parental support strategies, exercise book practices, formative assessment methods, and interventions for remote and minority-language contexts.

7. Conclusion

This study successfully examined the determinants of early grade reading skills among primary students in Taunggyi Township, providing empirical evidence that educational inputs significantly explain 52.1% of the variance in reading proficiency. The findings underscore that early literacy is not solely a product of classroom instruction but is deeply rooted in a synergistic relationship between home support, school resources, and pedagogical practices.

The most profound insight from this research is the critical role of the home literacy environment. Adult assistance with homework emerged as the single strongest predictor of reading success, followed closely by the presence of an adult reader at home. This suggests that in the context of Taunggyi, parental engagement acts as a primary catalyst for academic foundation, potentially outweighing school-based factors in isolation. However, this also highlights a risk of widening inequality for children whose parents lack the time or literacy skills to support them.

Geographically, the study reveals a stark disparity between students in non-remote and remote areas. The significant positive impact of studying in non-remote schools indicates that students closer to urban centers benefit from superior access to qualified teachers, learning materials, and infrastructure. This "urban advantage" points to an urgent need for targeted policy interventions to bridge the resource gap in rural and ethnic minority areas. Furthermore, the data indicates that female students and those who speak Myanmar language at home possess a slight advantage, reinforcing the need for inclusive teaching strategies that support boys and non-native Myanmar speakers.

Pedagogically, the results advocate for a shift in assessment culture. The positive correlation between "assessment for learning" (formative assessment) and reading skills, contrasted with the negative impact of excessive summative testing, suggests that frequent, low-stakes feedback is far more effective than high-pressure exams for young learners. Additionally, the regular use and marking of Myanmar exercise books proved to be essential practical tools that reinforce daily learning.

In conclusion, improving early grade reading skills in Taunggyi Township requires a holistic approach that extends beyond the school gates. Strategies must focus on empowering parents to become active partners in education, ensuring equitable resource distribution to remote schools, and training teachers to prioritize constructive feedback over mere testing. Addressing these systemic and environmental factors is essential to ensuring that every child in Taunggyi achieves the foundational literacy necessary for lifelong learning.

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