ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 9 (September 2026)

Teacher Designed Literacy Interventions for Beginning Reader Confidence

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Date Submitted:
March 12, 2026

Date Accepted:
July 27, 2026

Date Published:
September 24, 2026

DOI:
10.5281/zenodo.22930599

ABSTRACT

This study investigated how teacher-designed literacy interventions supported the confidence of beginning readers in public elementary schools in Baggao, Cagayan. Using a cross-level explanatory association design, the study involved 48 public elementary school teachers and 96 early-grade learners. Teacher-designed literacy interventions were assessed in terms of needs-responsive planning, foundational reading support, adaptive instructional delivery, and feedback with progress adjustment, while learner confidence was examined through willingness to read, persistence during difficulty, perceived reading capability, and participation in literacy tasks. Descriptive statistics and two-level linear mixed-effects modeling were employed to account for the nesting of learners within teachers. Results showed that teachers demonstrated a high overall level of literacy intervention practice, with foundational reading support receiving the strongest rating. Beginning reader confidence, however, remained moderate, particularly in perceived reading capability and persistence during challenging tasks. Multilevel analysis revealed that 17.2% of the variation in learner confidence occurred at the teacher level. Adaptive instructional delivery and feedback with progress adjustment emerged as significant predictors of confidence, while needs-responsive planning and foundational reading support did not independently predict learner confidence when considered simultaneously. The findings indicate that literacy interventions become more supportive of confidence when teachers continuously adjust instruction according to learner response rather than relying solely on predetermined activities. Strengthening progress monitoring, responsive scaffolding, and feedback-driven instructional adjustment is therefore recommended to support both reading development and learner confidence.

Keywords: *adaptive instruction, beginning readers, learner confidence, literacy intervention, progress monitoring, teacher-designed instruction*

INTRODUCTION

Learning to read is one of the most consequential tasks children encounter in the early years of schooling. Beginning readers must gradually connect sounds, letters, words, and meaning until reading becomes accurate and increasingly fluent. This development is not produced by a single instructional technique. Children need explicit support in foundational skills while also being given opportunities to understand language, engage with meaningful texts, and practice reading at a level suited to their developing abilities. Evidence from reading research emphasizes that effective early literacy instruction must be developmentally responsive and grounded in how children progressively acquire word recognition and comprehension skills (Castles et al., 2018).

The need to strengthen early reading instruction is especially pressing in Philippine basic education. The *Philippines Learning Poverty Brief* reported that approximately 91% of Filipino children at late primary age were

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 9 (September 2026)

not proficient in reading when adjusted for children who were out of school. The same report indicated that 90% of learners did not reach minimum reading proficiency at the end of primary school based on available assessment data (World Bank & UNESCO, 2022). These figures point to the importance of addressing reading difficulty before learner's progress through the elementary grades with weak foundational skills.

Teachers occupy a critical position in this effort because they encounter differences in reading ability directly inside the classroom. Instruction becomes more responsive when teachers identify what a learner can already do, determine where difficulty occurs, and adjust activities according to that need. Evidence from a randomized controlled trial involving kindergarten and first-grade teachers showed that struggling readers whose teachers implemented targeted, individualized reading intervention achieved greater gains in early literacy than comparable learners receiving regular classroom instruction (Vernon-Feagans et al., 2018). Such findings support teacher-designed intervention as more than the preparation of supplementary activities. It involves deliberate instructional decisions shaped by learner performance, appropriate materials, focused practice, and continuing observation of progress.

Reading development, however, cannot be viewed only through scores and observable skills. How children perceive themselves as readers also matters. Beginning readers who repeatedly experience difficulty may become hesitant when asked to read, avoid challenging tasks, or develop weaker beliefs about their ability to succeed. A longitudinal investigation of beginning readers found meaningful associations among early literacy skills, reading self-efficacy, and learner behavior, with differences evident from school entry and continuing across the first years of schooling (Arrow et al., 2026). This suggests that literacy intervention should create experiences of manageable challenge and visible progress so that skill development can be accompanied by stronger confidence as a reader.

This direction also reflects the emphasis of the Philippine Department of Education on using literacy data to identify reading gaps and designing interventions tailored to learners' specific needs (Department of Education, 2024). Yet there remains value in examining what happens when teachers themselves translate assessment evidence and classroom knowledge into literacy interventions and how these practices relate to the confidence of beginning readers. Thus, the study Teacher Designed Literacy Interventions for Beginning Reader Confidence focuses on public elementary school teachers and early-grade learners in Baggao, Cagayan. It seeks to understand how teacher-designed literacy interventions can respond to beginning readers' learning needs while supporting the confidence necessary for sustained participation in reading.

Literature Review

Teacher-Designed and Differentiated Literacy Instruction

Teacher-designed literacy intervention rests on the ability of teachers to adjust instruction according to differences in learners' reading development. Such adjustments may involve modifying materials, grouping learners, varying instructional tasks, or providing additional practice based on observed needs. Puzio et al. (2020), in a systematic review and meta-analysis of differentiated literacy instruction, found positive effects on elementary learners' literacy outcomes, particularly when instruction was deliberately adapted to learner differences. Their findings reinforce the value of teacher judgment in designing literacy experiences that move beyond uniform instruction and respond more closely to the strengths and difficulties of beginning readers.

Foundational Skills in Beginning Reading Intervention

Effective intervention for beginning readers requires attention to the skills that allow children to recognize words and construct meaning from print. Phonological awareness, letter knowledge, vocabulary, and early decoding are particularly important because weaknesses in these areas can restrict later reading development. Gillon et al. (2019) found that a teacher-implemented literacy intervention strengthened phonological awareness and vocabulary among young learners and produced substantial improvement in their ability to apply phonological knowledge when decoding unfamiliar words. This evidence suggests that classroom teachers can provide

ISSN: 3116-3475
International Journal
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Volume 2 Issue 9 (September 2026)

meaningful early intervention when instructional activities are deliberately organized around identifiable literacy needs.

Targeted Support for Struggling Beginning Readers

Beginning readers do not progress at the same rate, making targeted support necessary for learners who continue to experience difficulty despite regular classroom instruction. Intervention becomes more purposeful when the intensity and content of instruction are matched to the specific reading skills that require reinforcement. Wanzek et al. (2018) synthesized 25 studies involving intensive early reading interventions and found significant positive effects for struggling readers from kindergarten through Grade 3. These findings indicate that sustained and focused intervention can improve early reading outcomes, supporting the practice of designing additional instructional opportunities for learners whose progress requires closer attention.

Reading Confidence and Self-Efficacy

Literacy growth also involves how learners judge their own ability to perform reading tasks. A child who experiences repeated difficulty may become reluctant to participate, while successful and manageable reading experiences can strengthen willingness to attempt increasingly demanding tasks. Peura et al. (2019) found that reading self-efficacy was positively associated with reading fluency and its development among primary school children, with task-specific beliefs showing particularly meaningful relationships with performance. Their findings highlight the importance of designing literacy interventions that provide beginning readers with attainable challenges, constructive feedback, and opportunities to recognize their own improvement. Thus, confidence can be viewed as an important companion to skill development rather than an outcome separate from reading instruction.

METHODS

Research Design

The study employed a cross-level explanatory association design, a quantitative approach that linked teachers' literacy intervention practices with the reading confidence of learners under their instruction. Rather than treating teacher and learner responses as independent observations, the design preserved their natural instructional connection. Teacher-designed literacy interventions served as the teacher-level explanatory construct, while beginning reader confidence served as the learner-level outcome. This structure allowed the analysis to determine whether variations in intervention design, instructional adjustment, scaffolded practice, and feedback were associated with meaningful differences in learner confidence while accounting for the grouping of learners under particular teachers.

Research Locale

The study was conducted in Baggao, Cagayan, a municipality served by public elementary schools under the Schools Division of Cagayan. The locale provided an appropriate setting because early-grade classrooms included learners with varying levels of beginning reading development and teachers who were directly responsible for adapting literacy instruction to these differences. The investigation focused solely on the elementary level and did not identify individual participating schools in the reporting of results to preserve institutional confidentiality.

Participants and Sampling Technique

The study involved 48 public elementary school teachers and 96 early-grade learners, producing a total of 144 participants. Teacher participants were those who directly handled beginning reading instruction in kindergarten to Grade 3 and had implemented classroom-based literacy support for learners experiencing initial reading difficulty. Two early-grade learners were linked to each participating teacher, resulting in 96 learner

ISSN: 3116-3475
International Journal
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participants. The learners were selected from those receiving literacy support and capable of responding to the age-appropriate confidence measure with guided administration. A criterion-linked cluster sampling technique was used. Teachers were first identified according to the instructional eligibility criteria, after which eligible learners under their direct literacy instruction were selected through systematic procedures. The sampling arrangement kept the number of participants manageable while maintaining the teacher-learner linkage required by the analytical design.

Research Instrument

Data were gathered through two coordinated measures developed for the study. The Teacher-Designed Literacy Intervention Scale assessed four domains: needs-responsive planning, foundational reading support, adaptive instructional delivery, and feedback with progress adjustment. The Beginning Reader Confidence Scale measured willingness to read, persistence during difficulty, perceived reading capability, and participation in literacy tasks. Learner items were written using short and developmentally appropriate statements and were administered through standardized verbal instructions.

Content validation was undertaken by three specialists in early literacy, elementary education, and educational measurement who evaluated each item for relevance, clarity, alignment, and developmental appropriateness. The Teacher-Designed Literacy Intervention Scale obtained an S-CVI/Ave of .94, while the Beginning Reader Confidence Scale obtained an S-CVI/Ave of .92, indicating strong content validity. Items requiring refinement were revised before pilot administration. The instruments were subsequently pilot-tested with 30 teachers and 30 early-grade learners who were excluded from the main study. Reliability analysis showed a Cronbach's alpha of .93 for the Teacher-Designed Literacy Intervention Scale and .90 for the Beginning Reader Confidence Scale, demonstrating high internal consistency. These results supported the use of both instruments for the main data collection. No participant involved in the pilot testing was included in the final sample.

Data Gathering Procedure

Permission to conduct the study was secured from the appropriate education authorities before participant recruitment. Eligible teachers were informed of the purpose, procedures, confidentiality provisions, and voluntary nature of participation. After consent had been obtained, the teacher instrument was administered under standardized conditions. Learner participation proceeded only after parental or guardian consent and learner assent had been secured. The learner confidence scale was administered individually or in small supervised groups using developmentally appropriate instructions. Each learner response was coded to the corresponding teacher through anonymous identification numbers, allowing teacher-level intervention data to be connected with learner confidence scores without recording names in the analytical dataset. Completed instruments were checked for completeness, encoded, and screened before statistical analysis.

Data Analysis

Descriptive estimates, including the mean, standard deviation, and confidence intervals, were first generated to summarize teacher-designed literacy intervention practices and beginning reader confidence. The principal inferential procedure was two-level linear mixed-effects modeling. Learners constituted Level 1, while their corresponding teachers constituted Level 2. This approach was selected because two learner observations were linked to each participating teacher, making conventional regression inappropriate for treating all observations as completely independent. An unconditional random-intercept model was initially estimated to determine the proportion of variation in reading confidence attributable to teacher-level clustering. Teacher-designed literacy intervention dimensions were subsequently entered as Level 2 predictors of learner confidence. Fixed-effect coefficients, standard errors, 95% confidence intervals, and standardized effect estimates were examined. Model comparison was performed through Akaike Information Criterion and likelihood-ratio testing, while residual diagnostics were inspected to evaluate model adequacy. Statistical significance was evaluated at $p < .05$.

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Ethical Considerations

The study observed voluntary participation, informed consent, parental consent, learner assent, confidentiality, and the right to withdraw without penalty. No learner names, teacher names, or school identifiers were included in the analytical file or research report. Data were used solely for scholarly purposes, stored securely, and reported in aggregate form. Particular care was taken during learner administration to ensure that participation did not affect grades, classroom standing, or access to reading support.

RESULTS AND DISCUSSION

Table 1. *Teacher-Designed Literacy Intervention Practices among Public Elementary School Teachers*

Dimension	Mean	SD	95% CI	Interpretation
Needs-responsive planning	3.74	0.49	3.60–3.88	High
Foundational reading support	4.02	0.45	3.89–4.15	High
Adaptive instructional delivery	3.58	0.56	3.42–3.74	High
Feedback and progress adjustment	3.22	0.64	3.03–3.41	Moderate
Overall	3.64	0.43	3.52–3.76	High

Note. n = 48 teachers.

Table 1 presents the extent to which teachers designed and implemented literacy interventions for beginning readers. The overall mean of 3.64 indicated that literacy intervention practices were generally well established. Foundational reading support obtained the highest mean (M = 4.02, SD = 0.45), suggesting that teachers regularly emphasized decoding, sound-symbol relationships, word recognition, and guided reading practice. Needs-responsive planning was likewise evident. However, feedback and progress adjustment received the lowest rating (M = 3.22, SD = 0.64), revealing a practical weakness in using learner responses to revise intervention activities after instruction had begun. This pattern suggests that teachers were more confident in preparing and delivering literacy activities than in continuously recalibrating them from progress evidence. Comparable evidence shows that differentiated reading instruction may be common while systematic diagnostic use and targeted adjustment remain less consistently embedded in classroom practice (Feyertag et al., 2026).

Table 2. *Confidence of Early-Grade Beginning Readers*

Dimension	Mean	SD	95% CI	Interpretation
Willingness to read	3.02	0.54	2.91–3.13	High
Persistence during reading difficulty	2.74	0.61	2.62–2.86	Moderate
Perceived reading capability	2.63	0.65	2.50–2.76	Moderate
Participation in literacy tasks	3.10	0.51	3.00–3.20	High
Overall	2.87	0.46	2.78–2.96	Moderate

Note. n = 96 learners. Confidence was measured on a four-point response scale.

Table 2 shows that beginning reader confidence remained moderate overall (M = 2.87, SD = 0.46) despite relatively positive participation in classroom literacy activities. Participation obtained the highest mean (M = 3.10), followed by willingness to read (M = 3.02). The more concerning results appeared in perceived reading capability (M = 2.63) and persistence during difficulty (M = 2.74). Thus, learners generally participated when reading activities were provided, yet some remained uncertain about their ability to read successfully and were less persistent when they encountered unfamiliar words or difficult text. This distinction is important because visible participation does not necessarily indicate strong internal confidence. A large meta-analysis found a

ISSN: 3116-3475
International Journal
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significant relationship between reading motivation and reading achievement and further showed that reading performance and motivational beliefs influence one another over time (Toste et al., 2020).

Table 3. *Unconditional Two-Level Model for Beginning Reader Confidence*

Model Parameter	Estimate	SE	95% CI
Fixed intercept	2.87	0.049	2.77–2.97
Between-teacher variance, τ_{00}	0.032	0.015	0.013–0.078
Within-teacher learner variance, σ^2	0.154	0.025	0.112–0.212
Intraclass correlation coefficient	0.172		
AIC	108.80		

Note. 96 learners were nested within 48 teachers.

Table 3 presents the unconditional mixed-effects model used to determine whether learner confidence differed meaningfully across teachers before intervention dimensions were introduced. The intraclass correlation coefficient was 0.172, indicating that 17.2% of the variance in beginning reader confidence occurred between teachers, while 82.8% reflected differences among learners. The result justified the use of multilevel analysis because learner confidence was not entirely independent of the teacher under whom literacy intervention was provided. Although most variation remained at the learner level, the teacher-level share was substantial enough to suggest that differences in instructional environments and literacy support were associated with how confidently beginning readers approached reading. The result also demonstrates why treating all 96 learner observations as independent cases through ordinary regression would have overlooked the instructional clustering built into the study.

Table 4. *Two-Level Mixed-Effects Model Predicting Beginning Reader Confidence*

Teacher-Level Predictor	B	SE	95% CI	β	p
Intercept	2.87	0.045	2.78–2.96		<.001
Needs-responsive planning	0.10	0.060	-0.02–0.22	0.13	.102
Foundational reading support	0.08	0.070	-0.06–0.22	0.09	.259
Adaptive instructional delivery	0.24	0.070	0.10–0.38	0.31	.001
Feedback and progress adjustment	0.19	0.060	0.07–0.31	0.27	.003

Model Fit Indicator	Unconditional Model	Final Model
Between-teacher variance	0.032	0.013
Within-teacher variance	0.154	0.153
AIC	108.80	95.70
Reduction in between-teacher variance		59.4%
Likelihood-ratio test		$\chi^2(4) = 21.10$, $p < .001$

Table 4 provides the central finding of the study. The final mixed-effects model significantly improved upon the unconditional model, $\chi^2(4) = 21.10$, $p < .001$, while the AIC declined from 108.80 to 95.70. The teacher-designed intervention dimensions collectively explained 59.4% of the initial between-teacher variation in learner confidence. Among the dimensions, adaptive instructional delivery emerged as the strongest significant predictor ($B = 0.24$, $\beta = .31$, $p = .001$). Holding the other dimensions constant, stronger adaptation of instructional pace, task difficulty, scaffolds, grouping, and learning materials corresponded with higher confidence among beginning readers. Feedback and progress adjustment also contributed significantly ($B = 0.19$, $\beta = .27$, $p = .003$). These

ISSN: 3116-3475
International Journal
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findings indicate that confidence was associated less with merely having literacy activities and more with how teachers modified those activities as learners encountered difficulty.

The weaker results for needs-responsive planning ($p = .102$) and foundational reading support ($p = .259$) add an important qualification. Both practices were present, but neither independently predicted confidence after adaptive delivery and progress adjustment were simultaneously considered. Foundational instruction may strengthen reading skill without automatically making a learner feel capable, particularly when exercises remain difficult or insufficiently responsive to individual progress. Evidence from data-based reading intervention research similarly indicates that instructional customization becomes more productive when learner performance is actively used to guide subsequent instructional decisions (Filderman & Toste, 2022).

Model diagnostics supported the adequacy of the final specification. Standardized residuals ranged from -2.24 to 2.31, with no observation exceeding ±3.00. Inspection of the residual distribution showed no serious departure from normality, while the residual-versus-fitted pattern did not reveal systematic heteroscedasticity. Between-teacher variance declined from 0.032 to 0.013, whereas learner-level residual variance changed only slightly from 0.154 to 0.153. This pattern indicates that the intervention dimensions primarily accounted for differences attributable to teachers rather than eliminating the substantial individual differences that naturally remained among beginning readers.

Taken together, the results showed a clear instructional issue alongside a promising direction. Teachers demonstrated considerable strength in delivering foundational literacy support, yet learner confidence remained less secure in persistence and perceived reading capability. The strongest statistical relationships appeared when instruction was flexible and when teachers responded to progress through timely adjustment. Teacher-designed literacy intervention therefore appeared most consequential for confidence when it functioned as a responsive process rather than a fixed set of reading exercises.

CONCLUSION

Teacher-designed literacy interventions contributed meaningfully to the confidence of beginning readers, particularly when teachers adjusted instruction according to learner response and used feedback to refine subsequent reading activities. Although teachers showed strong implementation of foundational reading support, learner confidence remained moderate, with weaker results in perceived reading capability and persistence during difficult tasks. The multilevel analysis further showed that adaptive instructional delivery and feedback with progress adjustment were the strongest predictors of learner confidence, while planning and foundational support alone did not independently explain confidence differences. These results suggest that beginning readers benefit most when literacy intervention remains flexible, responsive, and sensitive to individual progress rather than being delivered as a fixed set of activities. Schools are therefore encouraged to strengthen teacher capacity in progress monitoring, instructional adjustment, scaffolded feedback, and confidence-building reading routines. Teachers should also be provided with practical tools for tracking learner responses and modifying intervention tasks based on emerging needs. Future research may examine the longer-term effects of teacher-designed interventions on reading achievement, persistence, and self-efficacy using larger samples and repeated measures across grading periods.

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