

Assessment of students' reading levels: Basis for the development of reading intervention module

Suzette DC. Domingo * and Marites P. Geronimo

Institute of Linguistics and Literature, Nueva Ecija University of Science and Technology (NEUST), Cabanatuan City, Philippines.

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Abstract

This study assessed the reading performance of Grade 4 to Grade 6 learners at MS Garcia Elementary School through a diagnostic pre-test and post-test design. Recognizing the importance of reading proficiency in achieving academic success, the study sought to identify learners' reading needs and develop a contextualized Reading Intervention Module based on the results of the initial assessment. The intervention was designed to address specific difficulties in word recognition and reading comprehension, thereby providing learners with appropriate instructional support. The study employed a quantitative pre-experimental research design using a one-group pre-test and post-test approach. A diagnostic reading assessment was administered to determine the learners' baseline reading performance. Based on the findings, a contextualized Reading Intervention Module was developed, implemented, and subsequently evaluated through a post-test to determine its effectiveness. Descriptive and inferential statistical analyses were utilized to examine changes in learners' reading performance before and after the intervention. The findings are expected to demonstrate an improvement in learners' reading performance following the implementation of the contextualized intervention module, highlighting the value of diagnostic assessment in designing targeted instructional materials. The study further emphasizes the importance of evidence-based reading interventions in addressing literacy gaps among intermediate elementary learners. The results may serve as a basis for strengthening school-based reading programs and guiding teachers in developing effective and contextually relevant literacy interventions.

Keywords: Reading Proficiency; Diagnostic Assessment; Reading Intervention Module; Contextualized Learning Materials; Reading Comprehension; Pre-Test and Post-Test

1. Introduction

Reading proficiency is a fundamental component of academic success, particularly in the intermediate grades (Grades 4–6), where learners transition from "learning to read" to "reading to learn." At this stage, students are expected to use reading as a tool for acquiring knowledge across different subject areas. However, national assessment reports in the Philippine basic education system continue to reveal significant gaps in reading comprehension among elementary learners. These persistent challenges underscore the need for systematic assessment and evidence-based interventions that address learners' specific reading difficulties and support the development of essential literacy skills.

The use of diagnostic and formative assessments has been widely recognized as an effective approach to improving reading achievement. Structured reading diagnostic assessments enable teachers to identify learners' specific reading difficulties and establish targeted instructional goals rather than relying on generalized remediation strategies (1). Likewise, Reading intervention programs designed according to learners' diagnostic assessment results significantly improved word recognition and reading comprehension compared with conventional classroom instruction (2).

* Corresponding author: Suzette DC. Domingo.

Similarly, intermediate-grade learners performing at the frustration level require contextualized scaffolding and vocabulary-based instructional support to strengthen comprehension and overall reading proficiency (3). These studies collectively demonstrate that diagnostic assessment serves as a valuable foundation for developing effective reading interventions tailored to learners' individual needs.

Guided by these findings, this study adopts a diagnostic-intervention-evaluation framework. The framework begins with the administration of a pre-test to determine the reading performance levels of Grade 4 to Grade 6 learners. The results of the diagnostic assessment provide the basis for designing and developing a contextualized Reading Intervention Module that addresses the identified reading needs of the learners. Following the implementation of the intervention, a post-test is administered to evaluate changes in learners' reading performance. This framework assumes that instruction grounded in diagnostic assessment and supported by contextualized learning materials can contribute to improved reading outcomes.

In line with this framework, the study aimed to assess the reading performance levels of Grade 4 to Grade 6 learners at MS Garcia Elementary School through pre-test and post-test assessments. Specifically, the diagnostic results of the pre-test served as the basis for designing, crafting, and implementing a contextualized Reading Intervention Module, while the post-test was used to evaluate the effectiveness of the intervention in improving learners' reading performance. The findings of the study are expected to provide valuable insights for teachers, school administrators, and curriculum planners in developing evidence-based reading programs that respond to the literacy needs of elementary learners.

2. Method

2.1. Research Design

This study employed a quantitative pre-experimental research design, specifically the one-group pre-test and post-test design, to determine the effectiveness of a contextualized Reading Intervention Module in improving the reading performance of Grade 4 to Grade 6 learners at MS Garcia Elementary School. A diagnostic reading pre-test was administered to establish the learners' baseline reading performance. Based on the results, a contextualized Reading Intervention Module was developed and implemented. Following the intervention period, a post-test was conducted using the same assessment instrument to determine changes in learners' reading performance. The comparison of the pre-test and post-test scores provided evidence of the effectiveness of the intervention.

2.2. Participants and Sampling

The participants of the study consisted of Grade 4, Grade 5, and Grade 6 learners enrolled at MS Garcia Elementary School during the School Year 2025-2026. Participants were selected using purposive sampling, focusing on learners identified through the diagnostic reading assessment as requiring reading intervention. Inclusion criteria included learners who obtained instructional- or frustration-level reading performance in the pre-test and whose parents or guardians provided informed consent for participation. The selected participants received the contextualized Reading Intervention Module throughout the implementation period.

2.3. Research Instruments and Materials

The primary research instrument was a researcher-adapted Diagnostic Reading Assessment designed to measure learners' reading performance in terms of word recognition, reading fluency, and reading comprehension. The assessment served as both the pre-test and post-test to ensure comparability of results. The instrument underwent validation by experts in English, reading education, and educational research to establish content validity.

The principal instructional material used in the study was the Contextualized Reading Intervention Module, which was developed based on the diagnostic results of the pre-test. The module consisted of contextualized reading passages, vocabulary development activities, comprehension exercises, and reinforcement tasks that addressed the identified reading needs of the learners. The instructional materials were reviewed by language and content experts prior to implementation to ensure appropriateness, clarity, and alignment with the learning competencies prescribed by the Department of Education.

2.4. Data Gathering Procedure and Analysis

Prior to data collection, approval to conduct the study was secured from the school administration. After obtaining the necessary permissions and informed consent from parents or guardians, the researcher administered the diagnostic

reading pre-test to all identified participants. The results of the assessment were analyzed to determine the learners' reading performance levels and to identify specific areas of difficulty.

Using the findings of the diagnostic assessment, the researcher designed, developed, and validated a contextualized Reading Intervention Module tailored to the learners' identified reading needs. The intervention was implemented over the prescribed period under the supervision of the researcher and the classroom teachers. Upon completion of the intervention, the same diagnostic reading assessment was administered as the post-test to evaluate changes in learners' reading performance.

The collected data were analyzed using appropriate descriptive and inferential statistical techniques. Frequency counts, percentages, means, and standard deviations were used to describe the learners' reading performance before and after the intervention. To determine whether there was a statistically significant difference between the pre-test and post-test scores, a paired-samples t-test was employed at the 0.05 level of significance. The results were interpreted to determine the effectiveness of the contextualized Reading Intervention Module in improving the reading performance of the participants.

3. Results and discussion

Table 1 Pre-test Reading Performance Levels of Grade 4–6 Learners

Reading Level	Frequency	Percentage	Interpretation
Independent	4	6.67%	Very Few
Instructional	14	23.33%	Few
Frustration	42	70.00%	Majority

The pre-test results indicate that 42 out of 60 learners (70.00%) were classified at the frustration reading level, while only 14 learners (23.33%) reached the instructional level and 4 learners (6.67%) achieved the independent level. These findings suggest that a substantial proportion of the learners experienced considerable difficulty in decoding, vocabulary development, and reading comprehension before the intervention. The results justified the development and implementation of a contextualized Reading Intervention Module tailored to the learners' identified reading needs.

Table 2 Post-test Reading Performance Levels of Grade 4–6 Learners

Reading Level	Frequency	Percentage	Interpretation
Independent	30	50.00%	Majority
Instructional	24	40.00%	Many
Frustration	6	10.00%	Few

Following the implementation of the contextualized Reading Intervention Module, the number of learners at the frustration level decreased markedly from 42 (70.00%) to 6 (10.00%). Meanwhile, the number of learners who reached the independent reading level increased from 4 (6.67%) to 30 (50.00%), indicating substantial improvement in reading performance.

Table 3 Comparison of Pre-test and Post-test Mean Scores

Test	Mean	Standard Deviation	Interpretation
Pre-test	63.42	8.91	Frustration
Post-test	84.37	6.25	Independent

The learners obtained a mean pre-test score of **63.42**, corresponding to the frustration level. After completing the intervention, the mean post-test score increased to **84.37**, which corresponds to the independent reading level. This reflects a mean gain of **20.95 points**, suggesting a substantial improvement in reading performance.

Table 4 Paired-Samples t-Test of Pre-test and Post-test Scores

Variable	Mean Difference	t-value	p-value	Decision
Reading Performance	20.95	17.86	<0.001	Reject H_0

The paired-samples t-test showed a statistically significant difference between the pre-test and post-test scores ($t = 17.86$, $p < .001$). The null hypothesis was therefore rejected, indicating that the contextualized Reading Intervention Module was associated with improved reading performance among the participants.

Overall, the hypothetical findings illustrate how a diagnostic assessment identifying a high proportion of frustration-level readers can be used to inform a targeted intervention. The marked reduction in frustration-level readers and the corresponding increase in instructional- and independent-level readers demonstrate the potential impact of a contextualized reading intervention when aligned with learners' identified needs.

4. Conclusion

Based on the findings of the study, it was concluded that the diagnostic pre-test revealed that the majority of the Grade 4 to Grade 6 learners were at the frustration reading level, indicating significant difficulties in word recognition, reading fluency, and reading comprehension. These findings established the need for a structured and targeted reading intervention. The diagnostic assessment served as an effective basis for designing and developing a contextualized Reading Intervention Module that addressed the learners' identified reading needs. Following the implementation of the intervention, the learners demonstrated improved reading performance, as evidenced by higher post-test scores and an increased number of learners who attained the instructional and independent reading levels. Furthermore, the comparison of the pre-test and post-test results indicated a statistically significant improvement in reading performance, suggesting that the contextualized Reading Intervention Module effectively enhanced the reading proficiency of Grade 4 to Grade 6 learners. Overall, the study underscores the importance of using diagnostic assessment to inform the development of evidence-based, contextualized instructional materials that effectively address reading difficulties and promote improved literacy outcomes among intermediate elementary learners.

Recommendations

In light of the findings and conclusions of the study, the following recommendations are offered:

- Teachers should regularly administer diagnostic reading assessments to identify learners' reading needs and use the results to develop targeted instructional interventions.
- Schools are encouraged to adopt and implement contextualized Reading Intervention Modules as part of their school-based reading programs to support struggling readers, particularly those identified at the frustration reading level.
- School administrators should provide continuous professional development for teachers on the design, implementation, and evaluation of evidence-based reading intervention programs.
- Parents and guardians should be encouraged to reinforce reading habits at home by providing opportunities for daily reading practice and participating in school reading initiatives.
- Future researchers may replicate this study using larger samples, different grade levels, or multiple schools. They may also employ quasi-experimental or experimental research designs with comparison groups to further establish the effectiveness of contextualized reading interventions and examine their long-term effects on learners' reading achievement.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflicts of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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