



Enhancing Literacy: A Comparative Analysis of the Effectiveness of Project Bear and Arangkada Pagbasa Reading Interventions in Claver National High School (S.Y. 2022-2024)

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study evaluates the effectiveness of two reading intervention programs, PROJECT B.E.A.R and ARANGKADA PAGBASA, implemented in Claver National High School over two academic years (2022-2024). The Philippine Informal Reading Inventory (Phil-IRI) pretest initially identified many students as struggling readers. Post-intervention results indicated a marked improvement in reading skills, demonstrating the effectiveness of both programs. The study highlights the importance of collaborative efforts involving teachers, parents, and the local government unit (L.G.U.) in addressing reading difficulties. Comparative analysis of both programs offers insights into effective strategies for enhancing literacy among high school students.

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1. INTRODUCTION

Reading is a fundamental skill that students need to acquire to succeed academically and personally [1]. However, not all students develop fluency in reading [2]. Fluency in reading refers to the ability to read with accuracy, speed, and expression [3]. It is more than just reading words on a page; it involves comprehension and understanding the text [4]. Fluent readers can read smoothly and automatically, without stopping or hesitating, and can focus on the meaning of the text [5]. Lacking fluency skills can cause students to struggle with comprehension, vocabulary development, and overall academic success in reading [6]. Students who struggle with fluency skills are at risk of falling behind academically [7]. A lack of fluency skills can impact reading comprehension, vocabulary development, and overall academic performance [8].

Poor reading ability among Filipino learners has been a never-ending problem in the Philippines [9]. The Philippines ranked last among 79 participating countries in reading and second to last in Math and Science [10]. The said results awaken everybody, especially the Department of Education [11]. For that reason, DepEd initiated various activities that would strengthen the learners' reading skills [12].

Every Child A Reader Program (E.C.A.R.P.) is a DepEd-initiated national program that addresses the thrust of the Department of Education (DepEd) to make every child a reader at his/her grade level [13]. The design of [the program/tool/curriculum, specify as needed] equips elementary pupils with strategic reading and writing skills, making them independent young readers and writers. E.C.A.R.P. is implemented through the following components: Reading Recovery (R.R.), Philippine Informal Reading Inventory (Phil-IRI), and Philippine Word Lists in English (P.W.L.E.) [14].

Reading Recovery (R.R.) is an early literacy intervention to reduce reading and writing difficulties in school [15]. On the other hand, the Informal Reading Inventory (Phil-IRI) is the assessment component of E.C.A.R.P [16]. It is a nationally validated assessment tool for measuring the reading proficiency level of public

elementary pupils in both English and Filipino languages [17]. It is an informal reading inventory composed of graded passages designed to determine students' performance in oral reading, silent reading, and listening comprehension [18]. Those three types of assessment aim to find the student's independent, instructional, and frustration levels [19].

Many interventions were also crafted and implemented by the different schools nationwide to lessen the number of Filipino learners who are marked as struggling readers [20]. At the start of the 2021 – 2022 school year, the Phil-IRI (Pretest) was conducted on all incoming Grade 7 – 12 Claver National High School learners to assess and determine their reading proficiency [21]. The Phil-IRI (Pretest) results showed that two hundred eleven (211) learners from Claver National High School are at the frustrated level or are struggling readers [22]. Based on the results of the Phil-IRI (Pretest), Claver National High School designed PROJECT B.E.A.R (*Being Excited About Reading*) S.Y. 2022-2023 [23] and ARANGKADA PAGBASA PROJECT S.Y. 2023 - 2024 to provide reading opportunities among students especially those who were significantly marked as struggling readers or under frustrated Level in support to DepEd's E.C.A.R.P. Program [24].

Reducing the number of struggling readers and bringing out the learners' interest to participate are this intervention's objectives. This study examines this collaborative pedagogical approach's qualitative and quantitative outcomes over the two years. It seeks to identify which intervention is effective by determining whether the two interventions have addressed the problem and helped reduce the number of identified struggling readers of Claver National High School.

1.1 Research Questions

The major objective of this study is to compare the reading intervention programs "PROJECT BEAR" for the School Year 2022-2023 and "ARANGKADA PAGBASA" for the School Year 2023-2024, which both aim to reduce the number of struggling readers in school and to bring out the learners to participate in the project. The study covers the two school calendar years

2022-2023 and 2023-2024 and aims to answer the following questions:

1. What is the performance of the learners before they participated in the implementation of the PROJECT BEAR AND ARANGKADA PAGBASA Project?
2. What is the learners' performance after they participate in implementing the PROJECT BEAR AND ARANGKADA PAGBASA Project?
3. Is there a significant difference in the learners' performance before and after participating in the implementation of the PROJECT BEAR and ARANGKADA PAGBASA Project?
4. What is the most effective reading intervention project, and what factors contribute to its effectiveness?

2. LITERATURE REVIEW

Studies underscore the importance of reading fluency as a critical component for academic success, showing that fluency involves more than mere word recognition; it includes comprehension and understanding of the text. Fluent readers demonstrate smooth, automatic reading, which aids in focusing on text meaning [25]. Lack of fluency can significantly impede comprehension, vocabulary development, and overall academic performance [26]. Therefore, addressing reading fluency is vital for educational achievement [27]. The Philippines faces persistent challenges in reading proficiency among learners [28]. Filipino learners rank low in reading, math, and science nationally in international assessments. This situation prompted the Department of Education to initiate programs like E.C.A.R.P. to strengthen reading skills [29]. These interventions, including Reading Recovery and Phil-IRI, aim to enhance elementary pupils' strategic reading and writing skills. The need for effective reading interventions is thus a national priority.

Several studies have examined the effectiveness of reading interventions [30]. These studies, ranging from early literacy interventions like Reading Recovery to comprehensive programs like READ 180, reveal varied results [31]. Some interventions show significant reading gains, while others demonstrate limited impact [32]. This highlights the complexity of addressing reading difficulties and the need for diverse, tailored approaches [33]. Evaluating these

interventions provides valuable insights into effective strategies for literacy improvement [34]. The success of reading interventions often hinges on collaborative efforts [35]. Involving teachers, parents, and community stakeholders, such as local government units, has proven beneficial [36]. These collaborations foster a supportive learning environment and ensure holistic support for learners [37]. The role of external stakeholders in enhancing the effectiveness of reading programs cannot be understated [38]. This collaborative model is pivotal in creating a culture of reading and learning [39].

Comparative analyses of different reading interventions are crucial for understanding their relative effectiveness. This research contributes to such an analysis by comparing PROJECT B.E.A.R and ARANGKADA PAGBASA. The findings reveal the strengths and areas for improvement in each program. Such comparative studies are essential for refining intervention strategies. They offer practical insights for educators and policymakers in designing and implementing effective reading programs.

3. MATERIALS AND METHODS

This section presents the research design, participants, data analysis, and procedures to research a Comparative Analysis of the Effectiveness of PROJECT BEAR and ARANGKADA PAGBASA Reading Interventions in Claver National High School (S.Y. 2022-2024).

3.1 Research Design

This study uses a quasi-experimental research design with a comparative approach to compare two reading intervention programs, PROJECT BEAR (School Year 2022-2023) and ARANGKADA PAGBASA (School Year 2023-2024), assessing their effectiveness in reducing the number of struggling readers.

3.2 Participants

The study used a purposive sampling approach, selecting learners from different grade levels at Claver National High School who are identified as struggling readers in both School Year 2022-2023 and School Year 2023-2024 as participants.

3.3 Data Analysis

The data gathered in this study was analyzed using Analysis of Variance (ANOVA) to determine if there was a significant difference in the learners' reading performance after undergoing the two reading interventions: PROJECT BEAR and ARANGKADA PAGBASA.

3.4 Procedures

Implementation of activities such as reading caravan on PROJECT BEAR and ARANGKADA SA P.A.G.B.A.S.A. were conducted.

3.4.1 Project bear

Having the desire to make every child a reader and to promote love for reading, and for PROJECT B.E.A.R to continuously realize amid the Covid-19 pandemic, the following activities were initiated by Claver National High School headed by Mrs. Marisol M. Galido, School Principal IV, Rodelio P. Cortez, Head Teacher-Designate/ English Subject Coordinator; Janine D. Francia, Reading Coordinator, English and Filipino teachers. During the pandemic, learners were given reading materials to practice reading at home. Parents and neighbours had a major role this time since they will serve as facilitators on their child's reading performance.

Reading Caravan was conducted on May 11, 2022, at Barangay Cabugo, Claver, Surigao del Norte. All Grade 7 learners near the barangay were called to participate in the said event. The main objectives of this activity are to encourage learners to enjoy reading to inspire struggling learners to join the activities without feeling left out, to encourage maximum participation of the learners in various activities, To stimulate the

interest of the learners in language learning through worthwhile activities; to instil the importance of language, especially the macro skills: reading, writing, listening, speaking, and viewing in daily living. Activities such as storytelling facilitated by Mrs. Regine B. Plaque. Four pics in one Word- facilitated by Mrs. Emdaliza D. Cortez; Japanese walk – facilitated by Mrs. Janine D. Francia; Words Escape-facilitated by Mrs. Maricel Samontina; Action Word – facilitated by Mrs. Divine Barriga. Made the reading caravan lively and memorable.

Moreover, Phil-IRI (Post-Test) was administered on the third week of May at the Grade 7 building, Section Happiness, Claver National High School. The 477 learners who got scores 14 and below in the group screening test underwent the Phil-IRI Post-test.

3.4.2 Arangkada pagbasa

The school's Language teachers conducted the pretest for the Philippine Informal Reading Inventory (Phil-IRI) among incoming Grade 7 to 12 learners, identifying those with frustration in word recognition. They submitted a project proposal to the Local Government Unit of Claver. They launched a project to orient teachers, learners, and parents about the new reading intervention project. Language teachers held a series of meetings and learning sessions before implementation. Language teachers held a series of meetings and learning sessions before implementation. They implemented reading tutorials every Friday for two to three hours, strictly monitoring attendance and reading progress. L.G.U. Volunteers conducted a reading assessment at the culmination of the project. The project was in partnership with the Local

Table 1. Action plan on Brigada Pagbasa: Project bear (Being excited about reading) in time of the pandemic: Reading caravan 2023

Activities	Persons Involved	Resources	Time Frame	Outputs
Reading caravan Reading teachers, together with the volunteers, will have a reading caravan in a chosen barangay.	Language teachers Reading teacher volunteers Grade 7 and 8 learners	LCD Projector Handouts Audio-visual aids Reading materials Games paraphernalia Snacks for the participants	March 18, 2023 and April 30, 2023	Learners are able to read and comprehend what they are reading Increased enthusiasm in reading among the struggling readers The team will submit the narrative report and liquidation on time

Government Unit of Claver. For every reading session, the organizers provided free snacks to the participants and free transportation to learners from far-flung Barangays of Claver. L.G.U. Claver awarded 2,000 pesos to those who passed the assessment during the culmination program. The school's Guidance Counselor coordinated with the organizers to strictly monitor attendance and misbehaviour during the reading sessions.

Data on oral reading pretest results in English for S.Y. 2022 -2023 shows that 105 out of 482 Grade 7 learners and 106 identified learners from Grade 8 to 12 are under frustration level in word recognition. This startling data needs immediate remediation as DepEd Memorandum No. 173, s. Two thousand nineteen states that to address the gaps mentioned above, there is a need to strengthen the reading proficiency of every learner and to nurture a culture of reading, a requisite skill in all content areas.

Table 2. A monitoring and evaluation tool for project BEAR (Being Excited About Reading)
 Direction: Please put a check "☐" mark on the box where your response to every question belongs

	YES	NO
Before		
1. Do all language teachers conduct the pre-reading assessment as stipulated in the PHIL-IRI?		
2. Do all language teachers identify the reading rate level of learners?		
3. Does the reading coordinator submit the report to the school head?		
4. Does the reading coordinator discuss the findings and their plans for intervention with the school head?		
5. Does the reading coordinator conduct an orientation for colleagues, learners, parents, and other stakeholders?		
During		
1. Do the implementors conduct the reading program at least three (3) times a week?		
2. Do the implementors sustain the reading program until before the scheduled PHIL-IRI post-assessment?		
3. Do the implementors provide adequate and suitable reading materials?		
4. Do the learners receive proper treatment (e.g., Learning environment and psychosocial support) that makes learning child-centred?		
5. Do the external stakeholders act out to help implement the program?		If YES, please specify
After		
1. Do all language teachers conduct the post-reading assessment as stipulated in the PHIL-IRI?		
2. Does the reading coordinator submit the report to the school head?		
3. Does the program lessen at least 50% of those identified learners under frustration rate level?		
3. Does the program lessen at least 50% of those identified learners under frustration rate level?		
4. Do the implementors give feedback to the stakeholders (esp., learners, parents, and other		

concerned stakeholders) about the learners' progress?

5. Do the learners receive incentives or rewards?

Comments/Suggestions:

Evaluated by:

4. RESULTS AND DISCUSSION

This section presents the outputs of PROJECT BEAR (2022-2023) and ARANGKADA SA PAGBASA (2023-2024).

4.1 Project B.E.A.R (2022-2023)

The 477 learners who scored 14 and below in the group screening test underwent the Phil-IRI Post-test.

Table 3 presents the post-test results of PROJECT B.E.A.R (2022-2023) in English reading skills, specifically in Word Recognition, Reading Comprehension, and Reading Rate. The results categorize students into three levels: Independent, Instructional, and Frustration. At the Independent Level, approximately 62% of students achieved this status in all three skills, demonstrating a strong ability to read and comprehend independently. Instructional Level: Roughly a quarter of the students (24% in Word Recognition and Reading Comprehension, 26% in Reading Rate) are at this level, suggesting they can benefit from targeted instruction. Frustration Level: A smaller group (about 12-14%) falls into this category, indicating significant challenges in reading skills.

The data suggests that the intervention had a positive impact, with most students reaching an independent reading level. However, the presence of students in the instructional and frustration levels indicates an ongoing need for support and targeted intervention.

Table 4 presents the post-test results of PROJECT B.E.A.R (2022-2023) in Filipino reading skills, specifically focusing on Word Recognition, Reading Comprehension, and Reading Rate. The results are categorized into

the same three levels as the English post-test: Independent, Instructional, and Frustration. Independent Level: A higher percentage of students (around 63% to 69%) achieved this Level across all three skills compared to the English results. This suggests a stronger proficiency in reading in Filipino.

Instructional Level: Between 22% and 25% of students are in this Level. Although slightly lower than in English, it still indicates a need for further instruction and support. Frustration Level: The percentages here (ranging from 7.90% to 11.23%) are lower than in the English results, which indicates fewer students struggling significantly with Filipino reading skills.

The data suggests that the Filipino reading skills of the students have improved post-intervention, with a significant majority achieving independent reading levels. This also implies that the interventions effectively enhanced reading proficiency in the Filipino language. However, the presence of students in the instructional and frustration levels suggests that continuous support and targeted intervention are still necessary for some students.

4.2 Arangkada Pagbasa (2023-2024)

The 482 learners who got scores 14 and below in the group screening test underwent the Phil-IRI Post-test English Post-Test Results:

Table 5 presents the post-test results of ARANGKADA PAGBASA (2023-2024) in English reading skills, focusing on Word Recognition, Reading Comprehension, and Reading Rate. The results are categorized into the same three levels: Independent, Instructional, and Frustration. Independent Level: A significant percentage of students achieved this Level

Table 3. English post-test results

Reading Level	Word Recognition	Reading Comprehension	Reading Rate
Independent Level (%)	62.37	62.16	62.37
Instructional Level (%)	24.32	23.38	25.99
Frustration Level (%)	12.42	13.72	10.81

Table 4. Filipino post-test results

Reading Level	Word Recognition	Reading Comprehension	Reading Rate
IndependentLevel (%)	69.23	64.86	63.62
Instructional Level (%)	22.00	23.08	25.27
Frustration Level (%)	7.90	11.23	9.98

Table 5. English post-test results

Reading Level	Word Recognition	Reading Comprehension	Reading Rate
Independent Level (%)	61.20	58.92	62.65
Instructional Level (%)	29.04	34.85	33.19
Frustration Level (%)	9.72	6.22	4.14

across all skills, with 61.20% in Word Recognition, 58.92% in Reading Comprehension, and 62.65% in Reading Rate. This indicates a strong capacity for independent reading among most students. Instructional Level: The percentage of students in this category is higher than the PROJECT B.E.A.R results, with 29.04% in Word Recognition, 34.85% in Reading Comprehension, and 33.19% in Reading Rate. This suggests that more students could benefit from additional instructional support. Frustration Level: The percentage of students at this Level is lower than in PROJECT B.E.A.R, with 9.72% in Word Recognition, 6.22% in Reading Comprehension, and 4.14% in Reading Rate. This indicates a decrease in the number of students struggling significantly with English reading skills.

The data from Table 5 suggests that ARANGKADA PAGBASA effectively improved English reading skills among the students, with a majority achieving independent reading levels. However, the increase in the instructional level category compared to PROJECT B.E.A.R indicates a need for continued support and targeted teaching strategies to assist these students. The lower percentages in the frustration level suggest a positive impact of the intervention on reducing severe reading difficulties.

Table 6 presents the post-test results of ARANGKADA PAGBASA (2023-2024) in Filipino

reading skills, focusing on Word Recognition, Reading Comprehension, and Reading Rate. The results are categorized into three levels: Independent, Instructional, and Frustration. Independent Level: The percentages in Word Recognition (60.16%) and Reading Rate (61.20%) indicate that most students can read independently in these areas. However, Reading Comprehension has a notably lower percentage (22.82%) at the Independent Level. Instructional Level: Many students fall into this category, especially in Reading Comprehension (58.71%). This suggests that while many students can recognize words and read satisfactorily, their comprehension skills require further instructional support. Frustration Level: The percentages here are notably higher compared to the English results of ARANGKADA PAGBASA, especially in Word Recognition (15.56%) and Reading Rate (14.50%). This indicates a considerable number of students face significant challenges in these areas.

The data suggests a disparity in skill levels within Filipino reading proficiency. While a majority can recognize words and read at a suitable pace, comprehension is a substantial challenge. The higher frustration levels in Word Recognition and Reading Rate also indicate a need for targeted interventions to support these students. This disparity highlights the importance of differentiated instruction to cater to students' varying needs in different aspects of reading proficiency.

Table 6. Filipino post-test results

Reading Level	Word Recognition	Reading Comprehension	Reading Rate
IndependentLevel (%)	60.16	22.82	61.20
Instructional Level (%)	58.71	28.83	24.89
Frustration Level (%)	15.56	12.44	14.50



Fig. 1. Comparison of pretest and post-test

There is a variation in the performance of learners between the two projects. While "PROJECT B.E.A.R (2022-2023)" showed relatively higher percentages of learners at the Independent Level, "ARANGKADA PAGBASA (2023-2024)" indicates some shifts towards the Instructional Level. The decrease in the percentage of learners at the Independent Level, especially in Filipino reading comprehension, suggests further examining teaching strategies and interventions to address specific challenges in achieving independent reading proficiency. Additionally, the decrease in the Frustration Level in both projects suggests that the interventions and reading activities have

positively impacted learners' ability to handle more challenging texts. Further analysis and targeted interventions may be necessary to address specific areas of concern, particularly in reading comprehension in Filipino.

Table 7 compares the Two Project's Pretest and Post-English and Filipino post-test results across different reading levels and skills. The values in parentheses under the "Comparison" section indicate the change from "PROJECT B.E.A.R (2022-2023)" to "ARANGKADA PAGBASA (2023-2024)" for each corresponding category.

Table 7. Comparison of two project's pretest and post-test

	Reading Level	Word Recognition (%)	Reading Comprehension (%)	Reading Rate (%)
**PROJECT B.E.A.R. (2022-2023) **	Independent Level	62.37	62.16	62.37
	Instructional Level	24.32	23.26	25.99
	Frustration Level	12.42	13.72	10.81
**ARANGKADA SA PAGBASA (2023-2024) **	Independent Level	61.20	58.92	62.65
	Instructional Level	29.04	34.85	33.19
	Frustration Level	9.72	6.22	4.14

5. CONCLUSION AND RECOMMENDATIONS

Before implementing two reading interventions, learners faced challenges in reading, as evidenced by the pretest results from the Informal Reading Inventory (Phil-IRI). However, following their participation in the two reading intervention projects, significant improvements were observed in their reading skills, which was reflected in the post-test results of the Phil-IRI. The data indicates a substantial difference in the reading progress of learners who underwent these interventions. Both initiatives, Project B.E.A.R and ARANGKADA PAGBASA, played a crucial role in enhancing the learners' reading abilities, with the support of parents and the Local Government Unit (L.G.U.) being key contributing factors. In light of these conclusions, the researcher recommends the following: Firstly, reading intervention activities are essential for addressing reading difficulties in learners. Secondly, tackling these reading challenges should involve a collaborative effort involving learners, teachers, parents, and the L.G.U.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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