ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

# National ARAL Program in DepEd Region II, Philippines: Implementation Experiences and Changes in PISA-Aligned Competencies

Florante E. Vergara
*Northeastern College*
*florante.vergara@deped.gov.ph*

Date Submitted:
**August 13, 2026**

Date Accepted:
**September 15, 2026**

Date Published:
**October 26, 2026**

DOI:
**10.5281/zenodo.23670962**

**ABSTRACT**

This study assessed changes in PISA-aligned reading and mathematics competencies and documented implementation experiences under the National Academic Recovery and Accessible Learning (ARAL) Program in DepEd Region II, Philippines. A multisite longitudinal mixed-methods evaluation involved 180 Grade 9 and Grade 10 learner-beneficiaries, 36 tutors, and nine division-level program coordinators. Baseline and endline assessments, implementation questionnaires, and interviews were analyzed using descriptive statistics, linear mixed-effects models, and framework analysis. Complete paired assessments were available for 84 reading beneficiaries and 88 mathematics beneficiaries. Mean scores increased from 44.68 to 57.20 in reading and from 36.83 to 46.51 in mathematics. Adjusted baseline-to-endline changes were statistically significant in reading ($\beta = 12.16$, $p < .001$) and mathematics ($\beta = 9.64$, $p < .001$). Tutorial attendance was positively associated with reading gains but not significantly associated with mathematics gains. At endline, 38.1% of reading beneficiaries and 14.8% of mathematics beneficiaries with complete assessments reached the study-defined benchmark of 60 on the researcher-developed instruments. Interviews and implementation ratings indicated favorable tutor preparedness but persistent limitations in learning resources, learner engagement, and progress monitoring. Although competency scores improved during the intervention period, the absence of a comparison group precluded causal attribution to ARAL. The findings support differentiated instruction, resource provision, and systematic assessment, alongside comparative evaluations of longer-term learning outcomes.

**Keywords**: *academic recovery, ARAL program, foundational learning, mathematical literacy, PISA-aligned competencies, reading literacy*

## INTRODUCTION

The improvement of national examination scores offers little assurance of educational progress when most learners remain unable to demonstrate the knowledge and skills expected at their grade level.

The Philippines recorded measurable gains in the 2025 Programme for International Student Assessment (PISA), with scores increasing by 20 points in reading, 16 points in mathematics, and 17 points in science compared with the 2022 assessment. Despite these improvements, only 31% of Filipino students attained minimum proficiency in reading, 21% in mathematics, and 32% in science. These results indicate that although the country has begun to improve its international standing, a considerable proportion of learners still struggle to interpret information, solve mathematical problems, and apply scientific knowledge to familiar situations. The Organisation for Economic Co-operation and Development (OECD, 2026) documented these gains while

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

emphasizing the substantial proficiency differences that continue to separate Filipino learners from their counterparts in other participating education systems.

The difficulties observed among secondary school learners often have roots in the earlier years of schooling. The World Bank (2024), drawing on pre-pandemic assessment data, reported a learning poverty estimate of 91% for the Philippines, indicating that a substantial majority of children had not acquired the reading proficiency expected by the end of primary education. This finding raises concerns about the cumulative effects of weak foundational learning. Learners who advance through successive grade levels without sufficient reading comprehension and numerical understanding may encounter increasing difficulty with subjects requiring interpretation, reasoning, and independent problem-solving. Addressing these weaknesses therefore requires more than additional classroom instruction. It calls for timely identification of learning difficulties and sustained assistance suited to the competencies that individual learners have yet to master.

Recognizing these concerns, the Philippine government enacted Republic Act No. 12028, otherwise known as the Academic Recovery and Accessible Learning (ARAL) Program Act, to establish a national system of learning interventions for students experiencing academic difficulties. The law provides for structured tutorial sessions, appropriate learning materials, qualified tutors, and regular assessment of learner progress. It prioritizes reading and mathematics while extending support to science competencies within the prescribed grade levels. Rather than treating academic recovery as a temporary remedial activity, the legislation establishes an organized means of helping learners acquire essential competencies before their difficulties become more pronounced (Republic Act No. 12028, 2024). Its implementation was subsequently formalized through DepEd Order No. 018, s. 2025, which established the operational guidelines for delivering learning recovery interventions across the basic education system (Department of Education, 2025).

Research on structured tutoring provides empirical support for this approach, although the quality of implementation remains important. Cortes et al. (2025), in a randomized controlled study involving 818 kindergarten learners, found that approximately 70% of children receiving individualized reading tutorials achieved the program's target reading level, compared with 32% of those in the control group. The intervention also produced improvements in oral reading fluency, demonstrating the potential of carefully organized instructional assistance. Nevertheless, positive results from smaller interventions do not automatically translate into comparable outcomes when programs expand. Kraft et al. (2026), examining experimental evidence on tutoring, found that average effects generally declined as the number of beneficiaries increased. Their analysis suggests that instructional consistency, tutor preparation, sufficient learning time, and program supervision are important considerations when extending academic recovery services across large education systems.

Within DepEd Region II, the implementation of the ARAL Program presents an opportunity to examine how a national educational intervention operates across different school divisions and learning environments. The regional office issued Regional Memorandum No. 509, s. 2025, providing for the upskilling of ARAL tutors and school heads, with particular attention to instructional facilitation, program supervision, learning materials, and assessment procedures. These preparations reflect the administrative and instructional responsibilities associated with implementing academic recovery at the regional level (Department of Education Region II, 2025). However, the existence of implementation guidelines and professional development activities does not, by itself, establish whether learners receive adequate instructional support or demonstrate meaningful improvements in the competencies being addressed.

Examining the experiences of schools implementing the program is therefore necessary to understand how its intended provisions translate into actual teaching and learning practices. This study investigates the implementation of the National ARAL Program in DepEd Region II, with particular attention to instructional delivery, learner support, implementation difficulties, and evidence of progress in foundational competencies associated with PISA performance. It also considers how regional experiences may inform improvements in learning recovery policies and instructional practices. Since national PISA results cannot independently establish the effects of a particular intervention, the investigation distinguishes measurable learner progress from broader changes in international assessment performance. Its findings are expected to provide a basis for strengthening

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

academic recovery efforts and helping more Filipino learners develop the competencies required for sustained educational achievement.

## Literature Review

### *Foundational Literacy and Numeracy as Determinants of Academic Achievement*

The development of reading comprehension and mathematical understanding during basic education has lasting implications for learners' ability to engage with increasingly demanding academic tasks. Igarashi and Suryadarma (2023) investigated changes in foundational competencies among Filipino learners using nationally representative household survey data collected between 2003 and 2019. Their findings revealed a sustained decline in foundational mathematics performance, although reading competencies among learners in the early grades showed improvement during the latter part of the observation period. More importantly, the study established that progression to higher grade levels did not necessarily indicate mastery of elementary competencies, suggesting that accumulated learning deficiencies could remain unresolved throughout schooling. These findings have particular significance for PISA, which assesses the ability to apply reading, mathematical, and scientific knowledge to unfamiliar situations rather than merely reproduce previously taught information. Supporting the need for sustained instructional assistance, Casinto (2025) reviewed ten Philippine studies on reading instruction and identified persistent difficulties associated with teaching approaches, instructional resources, and cooperation between schools and families. The review emphasized the importance of strengthening teacher preparation and improving the suitability of learning materials. Taken together, these studies suggest that the effectiveness of academic recovery depends on identifying specific learning deficiencies and addressing them through appropriately sequenced instruction. For the National ARAL Program, the implication is that improvements in foundational literacy and numeracy should be examined alongside the development of reasoning, comprehension, and problem-solving competencies associated with international assessment expectations.

### *Targeted Tutoring and the Effectiveness of Academic Recovery Interventions*

Individualized and small-group tutoring has received considerable empirical attention because it allows instructional assistance to respond directly to differences in learner readiness and achievement. Nickow et al. (2024) conducted a systematic review and meta-analysis of randomized tutoring experiments across primary and secondary education, reporting an overall pooled effect size of 0.288 standard deviations on academic performance. Stronger effects were generally associated with interventions delivered by teachers or paraprofessionals, frequent tutorial sessions, and instruction conducted during regular school hours. These findings indicate that the benefits of tutoring depend not simply on providing additional instruction but also on the qualifications of tutors, instructional frequency, and the organization of learning activities. Carbonari et al. (2026) offered a more cautious perspective through an evaluation of academic recovery interventions across eight school districts. Their investigation covered 12 mathematics interventions and 15 literacy interventions, including tutoring, extended learning opportunities, and specialized instructional arrangements. Statistically robust positive effects were identified in only five subject-intervention combinations, with many programs reaching fewer learners or delivering less instruction than originally planned. Such findings suggest that promising intervention models may produce inconsistent results when implemented across larger educational systems. Applied to the National ARAL Program, this evidence supports examining tutorial frequency, instructional delivery, learner participation, and available resources alongside actual changes in reading and mathematics achievement, rather than assuming that program participation alone guarantees measurable academic improvement.

### *Implementation Fidelity, Tutor Preparedness, and Regional Delivery Conditions*

The success of academic recovery initiatives depends heavily on how consistently instructional activities are delivered and whether implementation conditions permit tutors to respond effectively to learners' needs. Van Dijk et al. (2023) reviewed 50 reading intervention studies to determine how implementation fidelity was

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

measured and related to student achievement. Their analysis identified instructional dosage, adherence to prescribed procedures, and quality of delivery as the most frequently assessed elements, although their relationships with learning outcomes varied across studies. The authors recommended incorporating fidelity measures during program design rather than treating implementation quality as a secondary consideration after interventions had been completed. Evidence from the Philippine ARAL experience further illustrates the importance of examining these conditions. Bergonia (2026) investigated the experiences of 18 ARAL tutors in Santiago City and identified limited instructional time, inadequate learning resources, varied learner needs, increased workloads, and insufficient professional training as significant implementation difficulties. Tutors addressed these concerns through differentiated instruction, contextualized learning materials, and professional collaboration, although their responses did not eliminate the structural constraints affecting program delivery. These findings indicate that tutor commitment must be supported by adequate institutional arrangements if learning recovery is to be sustained. Within DepEd Region II, examining differences in instructional preparedness, tutorial delivery, resource availability, and program supervision may help explain variations in learner progress and identify implementation practices that require greater administrative and instructional support.

***Learning Progress Monitoring and the Assessment of PISA-Aligned Competencies***

The assessment of academic recovery requires evidence that learners have developed competencies beyond the memorization of classroom content or improvement in routine examination scores. Yao et al. (2024) conducted a meta-analysis of 118 studies involving 258 effect sizes to determine the influence of formative assessment on academic achievement across basic education. Their findings indicated an overall positive effect of 0.25 using Hedges' g, demonstrating that systematic assessment practices could support learning across different subject areas. The researchers also found that positive effects were observed across several forms of formative assessment, including self-assessment and peer assessment. Focusing specifically on mathematics education, Maskos et al. (2025) reviewed 45 studies and found that the effectiveness of formative assessment depended partly on instructional design, assessment frequency, learning objectives, and the quality of feedback. Their analysis further suggested that learners with weaker academic performance could benefit from assessment practices that informed subsequent instructional decisions. These findings are particularly relevant to the National ARAL Program because learning recovery requires continuous identification of competencies that remain insufficiently developed. For PISA-aligned evaluation, monitoring should extend beyond improvements in reading fluency and computational accuracy to include comprehension, interpretation, mathematical reasoning, and the application of knowledge to practical situations. Comparing baseline and endline performance while examining instructional conditions may provide a stronger account of learner development and clarify which aspects of academic recovery deserve continued investment.

## METHODS

### Research Design

The study employed a multisite longitudinal mixed-methods implementation evaluation to examine the delivery of the National Academic Recovery and Accessible Learning (ARAL) Program and its contribution to competencies associated with the Programme for International Student Assessment (PISA). Quantitative assessment data were used to examine changes in learners' reading and mathematical proficiency across an intervention cycle, while survey responses and qualitative accounts documented instructional practices, implementation conditions, and operational difficulties. The longitudinal component enabled the examination of learning progress, whereas the qualitative component provided explanations for differences in program implementation. The integration of these findings supported an assessment of how academic recovery practices related to competency development without attributing changes in national PISA performance directly to the intervention.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

**Research Locale**

The investigation was situated in Department of Education Region II, or Cagayan Valley, Philippines, encompassing selected public secondary education settings across the region's schools divisions. The locale was suitable because the ARAL Program had been implemented through regional and divisional mechanisms involving learner assessment, targeted instruction, tutor preparation, and progress monitoring. Differences in educational access, instructional resources, and local implementation conditions provided a basis for examining how the national intervention operated across varied learning environments.

**Participants and Sampling Technique**

The study involved 225 participants, comprising 180 Grade 9 and Grade 10 ARAL beneficiaries, 36 ARAL tutors, and nine division-level program coordinators. Criterion-based purposive sampling was employed in selecting learner-beneficiaries and tutors. Learners were identified from verified program enrollment records based on their participation in reading or mathematics interventions, resulting in an equal allocation of 90 beneficiaries for each learning area. Tutors were selected according to their direct instructional responsibilities during the intervention period. Complete enumeration was applied to the nine designated division-level program coordinators because all eligible personnel occupying these responsibilities were included. The selection procedures were documented through participant eligibility records and program assignment information.

**Research Instrument**

Data were collected using a researcher-developed ARAL Implementation Questionnaire and a PISA-aligned competency assessment. The questionnaire contained 30 statements covering tutor preparedness, instructional delivery, learning resource adequacy, learner engagement, and progress monitoring. Responses were recorded using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The competency assessment measured reading comprehension, mathematical reasoning, and the application of knowledge through tasks developed from grade-appropriate learning competencies and the PISA assessment framework. Two parallel assessment forms were administered during the baseline and endline evaluations to measure changes in learner performance.

The questionnaire underwent content validation by five qualified experts in educational assessment, curriculum, and research methodology. Their evaluations yielded a Scale-Level Content Validity Index, Average Method (S-CVI/Ave), of 0.94, indicating strong content relevance. The instrument was subsequently pilot-tested with 30 participants who possessed characteristics comparable to those of the actual respondents but were excluded from the final sample. Analysis of the pilot responses produced an overall Cronbach's alpha coefficient of 0.91, demonstrating high internal consistency.

**Data Gathering Procedure**

The data-gathering protocol began with the preparation of the research documents and the securing of permission from the appropriate educational authorities. Coordination with designated program personnel established the eligibility of participants and the availability of relevant intervention records. Baseline competency assessments were administered before the selected intervention cycle, followed by endline assessments after its completion. Tutors and program coordinators completed the implementation questionnaire, while selected personnel participated in brief interviews concerning instructional experiences and operational concerns. Completed instruments were examined for missing entries and response consistency. Assessment records were matched using coded identifiers, and the resulting datasets were organized for quantitative and qualitative analysis.

**Data Analysis**

Descriptive statistics were used to summarize baseline and endline competency scores, proficiency benchmark attainment, and tutorial attendance. Separate linear mixed-effects models were used to estimate changes in reading and mathematical literacy across the assessment period, with assessment occasion, tutorial attendance, and their interaction specified as fixed effects. The modeling approach accounted for the repeated

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

measurement of learner performance. Estimated coefficients, 95% confidence intervals, and standardized changes were used to summarize the quantitative findings. Implementation questionnaire responses were analyzed using medians and interquartile ranges, while interview accounts were examined through framework analysis. Quantitative and qualitative findings were subsequently integrated to identify consistencies and differences between observed learning progress and reported implementation conditions. Statistical significance was evaluated at the 0.05 level.

**Ethical Considerations**

The study followed established ethical principles for educational research. Informed consent was secured from participating personnel, while parental consent and learner assent were obtained for minors. Participation remained voluntary, and respondents retained the right to withdraw without consequences. Personal identifiers were replaced with confidential codes, and research records were stored securely with restricted access. All information was handled in accordance with applicable data privacy requirements and was used exclusively for legitimate academic research purposes.

## RESULTS AND DISCUSSION

Table 1. *Baseline and Endline Performance of ARAL Learners in PISA-Aligned Competency Assessments*

| Indicator | Reading | Mathematics |
|---|---|---|
| Learners assessed at baseline | 90 | 90 |
| Learners assessed at endline | 84 | 88 |
| Tutorial sessions attended, M (SD) | 14.96 (3.30) | 14.34 (3.27) |
| Baseline score, M (SD) | 44.68 (11.32) | 36.83 (11.03) |
| Endline score, M (SD) | 57.20 (12.53) | 46.51 (13.37) |
| Mean score improvement | 12.52 | 9.68 |
| Learners meeting the study benchmark at baseline | 8 (9.5%) | 3 (3.4%) |
| Learners meeting the study benchmark at endline | 32 (38.1%) | 13 (14.8%) |

*Note. Ninety learners in each intervention group completed the baseline assessment. However, paired analyses included only those with complete baseline and endline records, comprising 84 reading beneficiaries and 88 mathematics beneficiaries. All reported means, mean improvements, and benchmark percentages were calculated using these paired analytic samples. The study-defined proficiency benchmark was a score of 60 on the researcher-developed competency assessment and did not represent an official PISA proficiency level.*

The findings indicated improvement in both reading and mathematical literacy following participation in the National ARAL Program. Reading scores increased from 44.68 to 57.20, representing an average gain of 12.52 points. Mathematics scores increased from 36.83 to 46.51, producing a smaller improvement of 9.68 points. These patterns suggested that learners made progress during the intervention cycle, although the extent of improvement differed between the two learning areas. The stronger gains in reading were consistent with the possibility that structured tutorials had provided more immediate assistance with comprehension and information-processing tasks than with mathematical applications requiring several interconnected competencies.

The proportion of learners meeting the study-defined benchmark also increased. Among reading beneficiaries, the proportion rose from 9.5% to 38.1%, whereas mathematics beneficiaries registered an increase from 3.4% to 14.8%. Nevertheless, the majority of learners remained below the benchmark after completing the intervention. This result was particularly concerning in mathematics, where more than four-fifths of assessed beneficiaries had not reached the specified performance threshold. The pattern suggested that academic recovery had not fully resolved the learning difficulties that necessitated participation in the program. Although the

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

observed gains were encouraging, they also pointed to the need for continued intervention, particularly among learners whose initial proficiency was substantially below expected competency requirements.

The findings were consistent with the broader evidence presented by Nickow et al. (2024), who established that structured tutoring could improve academic outcomes but that the magnitude of improvement varied according to instructional arrangements and implementation conditions. The present pattern suggested that the provision of tutorial opportunities was valuable, although sustained progress depended on ensuring that learners received sufficient instructional support to address persistent competency deficiencies.

Table 2. *Changes in Reading and Mathematical Literacy Processes Following ARAL Intervention*

| Competency domain | Baseline mean | Endline mean | Mean gain |
|---|---|---|---|
| Reading literacy (n = 84) | | | |
| Locating and retrieving information | 54.07 | 68.54 | +14.47 |
| Understanding and integrating information | 44.49 | 57.95 | +13.46 |
| Evaluating and reflecting on texts | 35.48 | 45.12 | +9.64 |
| Mathematical literacy (n = 88) | | | |
| Formulating mathematical situations | 33.12 | 42.01 | +8.89 |
| Employing mathematical concepts and procedures | 43.40 | 54.74 | +11.34 |
| Interpreting and evaluating mathematical outcomes | 33.96 | 42.76 | +8.80 |

*Note. Scores were expressed on a 0–100 scale. The competency categories were derived from the cognitive processes identified in the OECD PISA assessment framework. Mean gains represented within-learner changes between baseline and endline assessments.*

Analysis of the reading literacy components showed that locating and retrieving information registered the greatest improvement, increasing by 14.47 points. Understanding and integrating information followed with a gain of 13.46 points, indicating progress in identifying relationships between ideas and constructing meaning from written materials. These improvements suggested that learners had developed greater facility in recognizing relevant textual information and interpreting familiar reading passages after receiving supplementary instruction.

However, evaluating and reflecting on texts remained the weakest reading component. Although the mean increased from 35.48 to 45.12, the final score remained considerably below those recorded for the other reading processes. This finding indicated continued difficulty in assessing the credibility of information, evaluating arguments, and drawing judgments from written texts. Such abilities required deeper comprehension and critical engagement than the identification of explicitly stated information. The pattern suggested that reading intervention activities had been more effective in strengthening information retrieval and comprehension than higher-order textual evaluation.

Mathematical literacy displayed a comparable distinction between procedural knowledge and applied reasoning. Employing mathematical concepts and procedures produced the highest gain of 11.34 points, suggesting improved competence in performing mathematical operations and applying familiar rules. In contrast, formulating mathematical situations and interpreting mathematical outcomes registered smaller improvements of 8.89 and 8.80 points, respectively. Their endline means remained below 43, indicating substantial difficulties in translating practical situations into mathematical representations and assessing whether calculated answers were reasonable.

These differences had implications for the intended relationship between foundational learning recovery and PISA achievement. The OECD (2023) emphasized that mathematical literacy involved formulating, employing, and interpreting mathematics in real-world situations, while reading literacy extended beyond comprehension to the evaluation of textual information. The findings therefore suggested that improved foundational performance did not necessarily indicate equivalent development across all competencies associated with international assessments. Greater instructional attention was needed for analytical reading, mathematical formulation, and the interpretation of unfamiliar problems.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

Table 3. *Linear Mixed-Effects Estimates of Changes in PISA-Aligned Competency Scores*

| Learning area and predictor | Estimate (β) | 95% CI | *p*-value | Standardized change |
|---|---|---|---|---|
| Reading: Endline assessment | 12.16 | 11.02 to 13.30 | ≤ .001 | 1.07 |
| Reading: Attendance interaction | 0.86 | 0.49 to 1.23 | ≤ .001 | — |
| Mathematics: Endline assessment | 9.64 | 8.43 to 10.86 | ≤ .001 | 0.88 |
| Mathematics: Attendance interaction | 0.21 | -0.17 to 0.59 | .273 | — |

*Note. Separate linear mixed-effects models were fitted for reading and mathematics. Assessment occasion, tutorial attendance, and their interaction were included as fixed effects. Random intercepts were incorporated for tutors and for learners nested within tutors to account for the hierarchical and repeated-measures structure of the data. Estimated coefficients were accompanied by 95% confidence intervals. Statistical significance was evaluated at α = .05.*

The mixed-effects analysis identified statistically significant improvements between baseline and endline assessments in both learning areas. The adjusted reading gain was 12.16 points, with a 95% confidence interval of 11.02 to 13.30, while the corresponding mathematical literacy gain was 9.64 points, with a confidence interval of 8.43 to 10.86. Both improvements remained statistically significant after the model accounted for repeated observations and tutor-level clustering. These results supported the descriptive evidence that learners demonstrated measurable competency development during the intervention cycle.

The relationship between tutorial attendance and learning improvement, however, differed across the two subjects. In reading, each additional tutorial session was associated with an estimated 0.86-point greater baseline-to-endline improvement. The positive interaction was statistically significant, indicating that learners who attended more sessions generally experienced greater reading gains. This association suggested that consistent tutorial participation had particular relevance to the development of reading competencies, which often required repeated practice, guided comprehension, and reinforcement of previously introduced skills.

In mathematics, the estimated attendance interaction was positive but statistically nonsignificant. Although learners generally improved over time, additional attendance did not demonstrate a sufficiently consistent relationship with greater mathematical score gains in the fitted model. This result suggested that the number of tutorial sessions alone could not adequately explain differences in mathematical progress. Instructional content, the difficulty of prerequisite competencies, pacing, and the suitability of learning activities may have influenced outcomes beyond the frequency of participation. The contrast between the two subjects supported the need to examine instructional quality alongside learner exposure rather than relying exclusively on attendance as an indicator of intervention effectiveness.

The standardized within-cohort changes were substantial, particularly in reading. Nevertheless, these estimates did not establish that the ARAL Program independently caused the observed gains. Without a comparison group, the analysis could not separate program-related improvement from other learning experiences, maturation, or assessment effects during the observation period. The findings were therefore interpreted as evidence of learner progress associated with the implementation period rather than definitive causal effects of the intervention.

Table 4. *Assessment of ARAL Program Implementation by Tutors and Program Coordinators (n = 45)*

| Implementation dimension | Median | Q1 | Q3 | Respondents scoring below 3.00 |
|---|---|---|---|---|
| Tutor preparedness | 4.00 | 3.67 | 4.33 | 0 (0.0%) |
| Instructional delivery | 3.67 | 3.33 | 4.00 | 2 (4.4%) |
| Learning resource adequacy | 2.67 | 2.33 | 3.00 | 32 (71.1%) |
| Learner engagement | 3.17 | 3.00 | 3.50 | 10 (22.2%) |
| Progress monitoring | 3.00 | 2.83 | 3.33 | 19 (42.2%) |
| Overall implementation | 3.37 | 3.10 | 3.50 | 9 (20.0%) |

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

*Note. Dimension scores represented the average of six questionnaire items per respondent, summarized using the median and interquartile boundaries. Responses were recorded on a five-point agreement scale. Values below 3.00 indicated an overall tendency toward disagreement with positively stated implementation indicators.*

The implementation assessment revealed considerable differences across the operational components of the ARAL Program. Tutor preparedness obtained the highest median of 4.00, suggesting that participating personnel generally considered themselves equipped to facilitate academic recovery activities. Instructional delivery also received a favorable evaluation, with a median of 3.67. These results indicated that tutor readiness and classroom implementation were among the stronger components of the program, reflecting positive perceptions of instructional preparation and the capacity to provide targeted assistance.

Learning resource adequacy presented a contrasting result. Its median of 2.67 was the lowest among the five dimensions, while 71.1% of respondents reported scores below 3.00. This finding indicated widespread concern regarding the sufficiency or suitability of materials used during tutorial sessions. Difficulties involving access to appropriate reading materials, differentiated mathematics exercises, instructional equipment, or assessment resources could have affected the ability of tutors to address individual learning needs consistently. The result suggested that preparedness among teaching personnel had not been matched by equivalent support in instructional resources.

Learner engagement and progress monitoring received intermediate assessments, with medians of 3.17 and 3.00, respectively. The relatively modest evaluation of learner engagement suggested difficulties in sustaining participation and active involvement throughout the intervention cycle. Progress monitoring also emerged as an area requiring attention, particularly because 42.2% of respondents scored the dimension below 3.00. These concerns indicated that program implementation had relied substantially on the competence and commitment of tutors while experiencing operational limitations in materials provision, learner participation, and assessment management.

Overall, the program received a median implementation score of 3.37, suggesting neither uniformly weak nor consistently strong delivery conditions. The findings indicated that implementation support needed to extend beyond preparing tutors. Greater attention to instructional materials, systematic learner assessment, and accessible progress-monitoring procedures was necessary to strengthen the continuity and effectiveness of academic recovery activities.

Table 5. *Qualitative Implementation Themes and Their Correspondence with Quantitative Results*

| Identified theme | Interviews mentioning theme (n = 18) | Related quantitative finding |
|---|---|---|
| Insufficient or unsuitable learning materials | 15 (83.3%) | Learning resource adequacy received the lowest median of 2.67 |
| Use of differentiated tutorial strategies | 14 (77.8%) | Tutor preparedness received the highest median of 4.00 |
| Irregular learner attendance | 13 (72.2%) | Reading improvement was significantly associated with tutorial attendance |
| Limited time for competency remediation | 12 (66.7%) | Most learners remained below the study benchmark after the intervention |
| Difficulty teaching higher-order reasoning tasks | 11 (61.1%) | Text evaluation and mathematical interpretation remained among the weakest competencies |
| Inconsistent recording and monitoring of learner progress | 10 (55.6%) | Progress monitoring received a median of 3.00 |

*Note. Interviews involved 12 tutors and 6 program coordinators. Themes were identified through framework analysis. Because individual interviews could contain several themes, frequencies were not mutually exclusive. The final column represented descriptive integration of qualitative themes and quantitative patterns rather than statistical tests of relationships.*

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 10 (October 2026)

The qualitative findings provided additional explanations for the variations observed in learner achievement and implementation assessments. Difficulties involving instructional resources were identified in 15 of the 18 interviews, reinforcing the low quantitative rating for learning resource adequacy. Participants' accounts described challenges in obtaining materials suited to learners with different competency deficiencies. The convergence of these findings suggested that resource limitations were not isolated operational concerns but recurring conditions affecting the delivery of targeted instruction.

Irregular learner attendance emerged in 13 interviews and corresponded with the quantitative finding that tutorial participation was positively associated with reading improvement. Interview accounts linked inconsistent participation to interruptions in instructional sequencing and the need to revisit previously taught competencies. These observations suggested that attendance affected not only the amount of instructional exposure but also the continuity of learning activities. However, the nonsignificant attendance interaction in mathematics indicated that consistent participation had not been sufficient to explain differences in mathematical achievement.

A further concern involved the teaching of higher-order reasoning tasks. Eleven interviews identified difficulties in helping learners interpret complex texts, construct mathematical representations, and evaluate answers in unfamiliar situations. This finding corresponded with the relatively weak endline performance in evaluating and reflecting on texts, formulating mathematical situations, and interpreting mathematical outcomes. The agreement between the two datasets suggested that the transition from foundational knowledge to applied reasoning had remained a substantial instructional challenge.

Despite these difficulties, differentiated tutorial strategies were reported in 14 interviews. These accounts described efforts to adjust instructional pacing, simplify learning tasks, and provide additional explanations when learners failed to demonstrate mastery. Their correspondence with the favorable tutor preparedness rating suggested that instructional personnel had exercised initiative in addressing learning needs even when available resources were limited. Nevertheless, adaptive teaching practices alone had not eliminated the difficulties associated with instructional time, learning materials, and progress monitoring.

Taken together, the quantitative and qualitative findings indicated that the ARAL Program had been accompanied by measurable improvements in foundational competencies while continuing to face conditions that limited the extent of learning recovery. Reading beneficiaries demonstrated greater progress than mathematics beneficiaries, but higher-order comprehension and reasoning remained areas of weakness in both subjects. Tutor preparedness provided an important foundation for implementation, whereas resource adequacy, learner participation, and monitoring practices required further improvement. The integrated findings suggested that strengthening learning recovery depended on the quality, continuity, and responsiveness of instruction, together with the organizational support necessary to sustain it.

## CONCLUSION

The reported baseline-to-endline differences suggested improvements in reading and mathematical literacy among ARAL beneficiaries in DepEd Region II, although difficulties in higher-order comprehension, mathematical reasoning, and the application of knowledge to unfamiliar situations remained evident. The findings also suggested that instructional preparedness was more favorably assessed than learning resource adequacy, learner engagement, and progress monitoring. These patterns described learning and implementation conditions during the intervention period but did not establish that the observed improvements were caused by the ARAL Program, since the research design did not include a comparison group. Accordingly, the Department of Education should strengthen differentiated instructional support, improve access to appropriate learning resources, and establish consistent competency monitoring procedures. School administrators and program coordinators should address attendance difficulties, provide targeted support for learners who remain below proficiency expectations, and strengthen instructional supervision. Future researchers should employ comparative or quasi-experimental designs, validated PISA-aligned assessments, and extended follow-up periods to establish stronger evidence

regarding the effectiveness of academic recovery interventions and their relationship to subsequent educational achievement.

## References

Bergonia, S. N. (2026). The unheard narratives of Academic Recovery and Accessible Learning (ARAL) tutors: A study on implementation realities. *International Journal of Education, Research, and Innovation Perspectives, 2*(7), 2389–2398. https://doi.org/10.5281/zenodo.21725417

Carbonari, M. V., DeArmond, M., Dewey, D., Dizon-Ross, E., Goldhaber, D., Kane, T. J., McDonald, A., McEachin, A., Morton, E., Muroga, A., Salazar, A., & Staiger, D. O. (2026). Impacts of academic recovery interventions on student achievement in 2022 to 2023. *Educational Evaluation and Policy Analysis, 48*(3), 1045–1072. https://doi.org/10.3102/01623737251400377

Casinto, C. D. (2025). The teaching and learning of reading: Its challenges, strategies, and effectiveness in the Philippine context: A systematic review. *International Journal of Language and Literary Studies, 7*(5), 345–356. https://doi.org/10.36892/ijlls.v7i5.2344

Cortes, K. E., Kortecamp, K., Loeb, S., & Robinson, C. D. (2025). A scalable approach to high-impact tutoring for young readers. *Learning and Instruction, 95*, Article 102021. doi:10.1016/j.learninstruc.2024.102021

Department of Education Region II. (2025). *Regional upskilling of ARAL tutors and school heads on ARAL Reading Program* (Regional Memorandum No. 509, s. 2025).

Department of Education. (2025). *Implementing guidelines of the Academic Recovery and Accessible Learning (ARAL) Program* (DepEd Order No. 018, s. 2025).

Igarashi, T., & Suryadarma, D. (2023). Foundational mathematics and reading skills of Filipino students over a generation. *International Journal of Educational Development, 96*, Article 102688. https://doi.org/10.1016/j.ijedudev.2022.102688

Kraft, M. A., Schueler, B. E., & Falken, G. T. (2026). What impacts should we expect from tutoring at scale? Exploring meta-analytic generalizability. *Review of Educational Research.* Advance online publication. doi:10.3102/00346543261446660

Maskos, K., Schulz, A., Oeksuez, S. S., & Rakoczy, K. (2025). Formative assessment in mathematics education: A systematic review. *ZDM – Mathematics Education, 57*, 679–693. https://doi.org/10.1007/s11858-025-01696-x

Nickow, A., Oreopoulos, P., & Quan, V. (2024). The promise of tutoring for PreK–12 learning: A systematic review and meta-analysis of the experimental evidence. *American Educational Research Journal, 61*(1), 74–107. https://doi.org/10.3102/00028312231208687

Organisation for Economic Co-operation and Development. (2023). *PISA 2022 assessment and analytical framework*. OECD Publishing. https://doi.org/10.1787/dfe0bf9c-en

Organisation for Economic Co-operation and Development. (2026). *PISA 2025 results (Volume I): Philippines.* OECD Publishing.

Republic Act No. 12028, 19th Cong. (2024) (Philippines). *An Act Establishing an Academic Recovery and Accessible Learning (ARAL) Program and Appropriating Funds Therefor.*

van Dijk, W., Lane, H. B., & Gage, N. A. (2023). How do intervention studies measure the relation between implementation fidelity and students' reading outcomes? A systematic review. *The Elementary School Journal, 124*(1), 56–84. https://doi.org/10.1086/725672

World Bank. (2024). *Philippines learning poverty brief* (Version 2).

Yao, Y., Amos, M., Snider, K., & Brown, T. (2024). The impact of formative assessment on K–12 learning: A meta-analysis. *Educational Research and Evaluation, 29*(7–8), 452–475. https://doi.org/10.1080/13803611.2024.2363831