

Improving Grade 10 students' Mastery of Active-Citizenship Concepts Through Brochure-Supported Remedial Instruction

Denver Josh D. Baldos¹, Bryan V. Catama², Johanne Mary V. Datud³, Mhelbert I. Fernandez⁴, Zinnia Paula M. Soriano⁵, Cheena D. Vilorio⁶

School of Teacher Education and Liberal Arts, Saint Louis University, Philippines

2233392@slu.edu.ph¹

bvcatama@slu.edu.ph²

2224280@slu.edu.ph³

2235858@slu.edu.ph⁴

2225410@slu.edu.ph⁵

2235354@slu.edu.ph⁶

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Abstract

This classroom-based action research used a quantitative one-group pretest-posttest design to examine changes in Grade 10 students' mastery of active-citizenship concepts following participation in a brochure-supported remedial program in Araling Panlipunan (Social Studies). Thirty-three students who scored 50% or below across fourth-quarter formative and summative assessments were selected purposively. The intervention combined brochure-based instructional materials with guided discussion, collaborative tasks, reflection exercises, and practical applications in three 60-minute sessions per week for four weeks. A 40-item curriculum-aligned test was administered before and after the program. The mean score increased from 10.8 (SD = 3.68) to 35.9 (SD = 2.88). The paired-samples comparison indicated a mean gain of 25.1 points, $t(32) = 38.00$, $p < .001$, 95% CI [23.76, 26.44], with a very large standardized paired effect, $d_z = 6.62$. These results show a large short-term improvement in test performance among the participating remedial students. Because the study used one group, assessed the same students twice, and delivered several instructional components together, the gain cannot be attributed to the brochure alone and should not be interpreted as evidence of citizenship behavior outside the classroom. The findings support cautious continued use and iterative evaluation of the multicomponent brochure-supported remedial approach, preferably with delayed assessment, broader measures of active citizenship, and a comparison condition in subsequent cycles.

Keywords: active citizenship; Araling Panlipunan; brochure-supported instruction; remedial education

INTRODUCTION

Araling Panlipunan, commonly referred to in English as Social Studies, is expected to help secondary students understand social institutions, rights, responsibilities, participation, and the relationship between civic knowledge and public life. The Philippine K to 12 curriculum positions the subject as a setting in which students develop informed and socially responsible participation (Department of Education, 2016). Active citizenship likewise involves

participation in political and social life rather than knowledge alone (Egüz & Kafadar, 2020). In this study, civic knowledge refers to students' understanding of civic institutions, rights, responsibilities, processes, and public concepts. Active-citizenship concepts refer more specifically to curriculum-based ideas about informed, responsible, and participatory citizenship assessed in the Grade 10 Araling Panlipunan test. Both are cognitive outcomes and differ from actual civic participation, which involves observable engagement in civic, social, community, or political activities. Research with adolescents shows that civic knowledge may support readiness or willingness to participate, but knowledge alone does not constitute participation or predict all forms of civic engagement equally (Alscher et al., 2022; Luengo-Kanacri et al., 2023). Donbavand and Hoskins (2021), in a systematic review of controlled trials, found that citizenship-education interventions can support political engagement, although gains in knowledge do not necessarily translate into civic behavior. Similarly, Jerome et al. (2024), in a synthesis of 109 peer-reviewed studies, found that active-citizenship outcomes depend on broader instructional conditions, including teacher-student relationships, school ethos, participatory learning opportunities, and citizenship-activity design. These findings support treating civic knowledge as a component of active citizenship rather than as a proxy for civic participation. Classroom instruction should therefore support students' understanding of civic concepts while also providing opportunities to interpret, discuss, and apply those concepts in meaningful contexts.

At San Vicente National High School, classroom assessments, written work, and recitations indicated that some Grade 10 students had difficulty explaining active-citizenship concepts and relating them to community situations. The fourth-quarter assessment records of 120 Grade 10 students were initially screened. Before participant selection, a score of 50% or below across the relevant formative and summative assessments was established as the classroom criterion for identifying students who demonstrated substantial difficulty with the targeted competencies and therefore required intensive remedial support. This threshold functioned as an instructional screening criterion for the action-research cycle rather than as a national proficiency standard. Of the 120 students screened, 33 met the criterion and were included in the remedial group. Their baseline mean on the study's 40-item test was 10.8 out of 40, equivalent to 27%, indicating low mastery of the assessed content. The convergence between the fourth-quarter screening results and the study pretest provided direct classroom evidence that the identified students were experiencing persistent difficulty with the targeted active-citizenship concepts. This local evidence, rather than broad national or international performance claims, provided the immediate rationale for a targeted classroom intervention.

Brochures were selected because they can organize brief verbal explanations and visual information within a compact learning resource. Dual-coding research in Social Studies suggests that coordinated verbal and visual representations can support vocabulary development and comprehension (Wooten & Cuevas, 2024). Constructivist teaching also emphasizes learners' active interpretation of information through interaction and experience (Efgivia et al., 2021). In related classroom contexts, brochure-supported instruction has been associated with improved learning outcomes and positive student responses in Social Studies (Hareen & Wahyudi, 2021) and with higher quiz performance in mathematics and statistics (Pascual, 2022). These studies support the pedagogical plausibility of brochures, but they do not establish whether brochure-supported remediation improves students' mastery of active-citizenship concepts.

Recent evidence generally supports the use of structured print, visual, and contextualized materials in Social Studies learning. Across different instructional formats,

conceptual-change texts, print media, infographics, and visual resources have been associated with better conceptual understanding, comprehension, reading-related outcomes, or academic performance (Abdu-Raheem & Folorunso, 2025; Caña & Brion, 2023; Meral, 2022; Mujittaba, 2024; Wooten & Cuevas, 2024). Broader evidence syntheses support this pattern. Guo et al. (2020), in a systematic review of 44 K-12 studies, found that visual displays can support content-area learning, but their presence alone does not ensure improvement and their effectiveness partly depend on accompanying instructional support. More recently, Rexigel et al. (2024), in a systematic review and meta-analysis of 46 studies comprising 132 effect sizes, found that multiple external representations can improve cognitive load and performance, particularly when paired with appropriate instructional support. Philippine studies similarly indicate the instructional value of localized and contextually relevant resources. Among Grade 10 students, comprehension was associated with the informative content, relevance, and visual organization of infographics (Caña & Brion, 2023). Competency-based print and non-print Social Studies materials were also perceived as useful, aligned, and applicable across elementary-school settings (Concha et al., 2024). Contextualized classroom practices and instructional resources have likewise been identified as relevant to the development of civic literacy among Filipino learners (Mahilum et al., 2025).

Evidence from targeted academic interventions supports providing structured additional instruction to learners with persistent academic difficulties. In a large systematic review, Dietrichson et al. (2021) found positive short-term and follow-up effects of school-based interventions for students with or at risk of academic difficulties, although effects varied substantially across instructional approaches. Small-group adult instruction and peer-assisted instruction were among the more consistently supported components. Although that review focused primarily on reading and mathematics in younger learners, its findings support the general principle underlying the present remedial program: students identified through prior evidence of academic difficulty may benefit from additional structured, targeted, and interactive instructional support. The present study extends this principle to Grade 10 Araling Panlipunan and active-citizenship concept learning, a context that remains comparatively underrepresented in intervention research.

Although these studies converge on the instructional value of organized, visual, and context-sensitive materials, their findings cannot be applied directly to the present classroom problem. The studies examined conceptual-change texts, general print media, infographics, mixed print and non-print resources, or broadly defined visual materials rather than a brochure integrated into a remedial program (Abdu-Raheem & Folorunso, 2025; Caña & Brion, 2023; Concha et al., 2024; Meral, 2022; Mujittaba, 2024). They also measured different outcomes, including reading habits, general Social Studies performance, comprehension, resource acceptability, and multidimensional civic literacy, rather than curriculum-aligned mastery of active-citizenship concepts. Moreover, several studies involved elementary pupils, younger secondary students, private-school learners, or students outside the Philippines (Concha et al., 2024; Mahilum et al., 2025; Meral, 2022; Mujittaba, 2024). Taken together, the literature supports the pedagogical basis for using compact visual-print resources, but it does not establish whether a brochure-supported remedial program can improve active-citizenship concept mastery among low-performing Grade 10 Araling Panlipunan students in a Philippine public-school classroom. Recent evidence syntheses separately examine citizenship education, targeted academic interventions, and visual or multirepresentational learning (Dietrichson et al., 2021; Donbavand & Hoskins, 2021; Jerome et al., 2024; Rexigel et al., 2024), but rarely integrate these strands in classroom-based remedial interventions targeting active-citizenship

concept mastery. This intersection of intervention format, remedial purpose, measured outcome, learner group, and classroom context constitutes the research gap addressed by the present action research.

The present study examined whether students' scores on a curriculum-aligned test of active-citizenship concepts changed after their participation in a brochure-supported remedial program. Consistent with the distinction above, mastery refers to students' cognitive understanding of the active-citizenship concepts in the Grade 10 curriculum, as measured by the 40-item test. It does not encompass observed civic action, political participation, community involvement, or citizenship behavior. Active-citizenship competency is the broader educational aim, whereas concept mastery is the specific cognitive outcome examined in this action-research cycle. This distinction prevents improvements in test scores from being interpreted as direct evidence of civic participation or behavior. Given the documented screening results and the baseline learning difficulty among the 33 identified remedial students, this study aims to answer the following questions:

1. What is the level of students' mastery of active-citizenship concepts before the brochure-supported remedial program?
2. What is the level of students' mastery of active-citizenship concepts after the brochure-supported remedial program?
3. Is there a statistically significant difference between the students' pretest and posttest scores?

The study contributes practice-based evidence from a remedial Araling Panlipunan setting. It functions as a single classroom-improvement cycle in which a documented learning problem was identified, an intervention was planned and implemented, student performance was observed, and the results were used to support reflection and inform recommendations for a subsequent instructional cycle. The study does not claim that the effect of the brochure was isolated from the guided teaching and student-centered activities that accompanied its use.

METHOD

The study used a quantitative one-group pretest-posttest design within a classroom-based action-research framework. This design was selected to determine whether the identified remedial students showed measurable changes in mastery after a planned classroom intervention. The pretest established their initial mastery, while the posttest provided a comparable measure after the intervention. The design therefore enabled systematic examination of within-group change while addressing an identified classroom learning problem. However, without a comparison or control group, it cannot establish what would have occurred in the absence of the intervention or support strong causal attribution. The pretest-posttest difference is therefore interpreted as change associated with participation in the remedial program rather than as an isolated causal effect of the brochure.

The action research comprised one classroom-improvement cycle organized around planning, action, observation, and reflection. This structure reflects the role of reflection in action research, where evidence from practice informs subsequent educational decisions (Simmons et al., 2021). During planning, the researchers reviewed fourth-quarter formative and summative assessment records, identified students requiring remedial support, examined the least-mastered active-citizenship content, prepared brochure-supported activities, and aligned the assessment with the targeted competencies. During action, the four-week remedial program used brochure-supported instruction, guided discussion, collaborative tasks, reflection exercises, and practical applications. During observation, the researchers

documented pretest and posttest performance, implementation observations, and records from the remedial sessions. During reflection, they considered the observed improvement alongside first-cycle limitations, including the absence of a comparison condition, the intervention's multicomponent design, posttest score concentration near the upper end of the scale, and the lack of a delayed retention measure. These reflections informed the next cycle, including continued but monitored use of the brochure-supported approach, delayed assessment of retention, broader indicators of active citizenship, and a comparison condition where feasible. Reflection therefore linked evidence from the current cycle to subsequent instructional refinement rather than serving as a terminal stage of inquiry.

Participants were 33 Grade 10 students at San Vicente National High School who had not met the expected performance level in fourth-quarter Araling Panlipunan assessments. Participant selection began by screening the fourth-quarter assessment records of 120 Grade 10 students. Students qualified for the remedial group if they scored 50% or below across the relevant formative and summative assessments. This criterion identified students whose performance did not exceed half of the available score and who therefore required targeted support in the competencies addressed by the intervention. The 50% threshold served as an instructional screening criterion for this action-research cycle, not as a national proficiency benchmark. Of the 120 students screened, 33 met the criterion and formed the study group.

Purposive sampling was used because the classroom action addressed students already identified as needing intensive academic support. The sampling procedure aligned with the problem-solving purpose of the action research by focusing on students who struggled with the targeted content rather than on producing a statistically representative sample of the Grade 10 population. The findings are specific to the 33 remedial students, the instructional setting, and the conditions of this action-research cycle. They are not statistically generalizable to all Grade 10 students at San Vicente National High School or to students in other schools.

The intervention was a brochure-supported remedial program aligned with the active-citizenship content taught during the fourth quarter. It was delivered in three 60-minute sessions each week for four weeks, for a total scheduled exposure of 12 hours. The brochure organized key concepts through concise text, images, and guided content. During each session, the instructors used the brochure as the central learning resource and supplemented it with guided discussion, opportunities for questions, collaborative tasks, reflection exercises, and practical applications to personal and community situations. Two researchers delivered the sessions; three researchers supported observation, data recording, encoding, and statistical analysis.

Student performance was measured with a 40-item test aligned with the intended Araling Panlipunan content and the students' academic level. The same score scale was used at pretest and posttest. The brochure and test were reviewed by three selected Department of Education teachers and content experts. The brochure received an overall validation mean of 4.66, described in the study records as very high, and the test received a mean of 4.21, described as high.

Frequencies, percentages, means, standard deviations, minimums, maximums, skewness, and kurtosis summarized performance. A paired-samples t-test compared pretest and posttest scores for the same 33 students, with alpha set at .05. For $n = 33$ paired observations, the test has 32 degrees of freedom. The mean paired gain and its 95% confidence interval were reported. Cohen's d_z was calculated as t divided by the square root of n to describe the standardized within-participant change.

Ethical Considerations

Formal permission to conduct the classroom inquiry was obtained from the school head and cooperating teachers. Students were informed of the study purpose, confidentiality protections, and academic use of the data. Pretesting preceded the four-week intervention, and posttesting followed the final session. Participation in the research component was clearly separated from students' access to regular remedial instruction, ensuring that choosing not to participate in the research did not affect their grades, educational services, or relationships with their teachers.

FINDINGS

Preintervention Mastery

Table 1. Pretest distribution of mastery scores (N = 33)

Score range	Interpretation	f	%
33-40	Very high mastery	0	0.00
25-32	High mastery	0	0.00
17-24	Moderate mastery	3	9.09
9-16	Low mastery	19	57.58
0-8	Very low mastery	11	33.33
Total		33	100

Note. The five categories were researcher-defined descriptive score bands created by dividing the 40-point test scale into approximately equal intervals. They were used only to summarize the distribution of performance within the study and were not intended as official proficiency or mastery standards. $M = 10.8$, $SD = 3.68$, minimum = 7, maximum = 20, skewness = 1.15, kurtosis = 0.40.

Before the program, the mean score was 10.8 of 40 ($SD = 3.68$). Nineteen students (57.58%) were classified as having low mastery, and 11 (33.33%) were classified as having very low mastery. Three students (9.09%) reached moderate mastery; none reached the high or very high categories. Using the researcher-defined score bands, 30 of the 33 students (90.91%) were therefore located in the low or very low mastery categories before the intervention. The positive skewness indicates that scores were concentrated toward the lower end with a smaller number of higher scores. Descriptive skewness and kurtosis of the pretest alone do not test the paired t-test assumption, which applies to the distribution of difference scores.

Postintervention Mastery

Table 2. Posttest distribution of mastery scores (N = 33)

Score range	Interpretation	f	%
33-40	Very high mastery	26	78.79
25-32	High mastery	7	21.21
17-24	Moderate mastery	0	0.00
9-16	Low mastery	0	0.00
0-8	Very low mastery	0	0.00
Total		33	100

Note. The same researcher-defined descriptive score bands were applied to the posttest for consistency of interpretation. $M = 35.9$, $SD = 2.88$, minimum = 31, maximum = 40, skewness = -0.381, kurtosis = -1.17.

After the program, the mean score was 35.9 of 40 ($SD = 2.88$). Twenty-six students (78.79%) were classified as having very high mastery, and seven (21.21%) were classified as having high mastery. No student remained in the moderate, low, or very low categories. Scores ranged from 31 to 40, and the negative skewness is consistent with clustering near the upper end of the scale. The concentration of posttest scores near the maximum also raises the possibility of a ceiling effect. Because 26 of the 33 students scored within the 33–40 range and the observed

maximum was 40, the assessment may have had reduced capacity to distinguish among students who reached high levels of immediate postintervention performance. The posttest distribution therefore indicates strong short-term performance on the assessed content, while also suggesting that the instrument may have provided limited differentiation among the highest-scoring students.

Pretest–Posttest Difference

Table 3. Paired-samples comparison of pretest and posttest scores

N	Pretest M (SD)	Posttest M (SD)	Mean gain	SE	t	df	p	95% CI	dz
33	10.8 (3.68)	35.9 (2.88)	25.1	0.658	38.00	32	< .001	[23.76, 26.44]	6.62

Note. The degrees of freedom were $n - 1 = 32$. The percentage-point gain was calculated by expressing the pretest and posttest means as percentages of the 40-point maximum. The pretest mean corresponded to 27.0%, while the posttest mean corresponded to 89.8%, yielding an improvement of approximately 62.8 percentage points. Cohen's d_z was calculated as t divided by the square root of n .

The mean score increased by 25.1 points, from 10.8 to 35.9 on the 40-point test. Expressed relative to the maximum possible score, the mean increased from 27.0% at pretest to 89.8% at posttest, corresponding to an improvement of approximately 62.8 percentage points. The paired-samples comparison indicated that the difference was statistically significant, $t(32) = 38.00$, $p < .001$, 95% CI [23.76, 26.44], with a very large standardized paired effect, $d_z = 6.62$. The raw-score gain and the percentage-point gain provide complementary educational interpretations of the observed change, with the former describing improvement on the 40-point test scale and the latter showing the magnitude of improvement relative to the total available score.

DISCUSSION

The present classroom action research examined changes in Grade 10 students' mastery of active-citizenship concepts following a four-week brochure-supported remedial program in Araling Panlipunan. The discussion is organized around the three research questions concerning students' preintervention mastery, postintervention mastery, and the statistical difference between their pretest and posttest scores. The findings indicate a substantial short-term improvement in the participating students' demonstrated mastery of the assessed concepts. The mean increased from 10.8 to 35.9 on the 40-point assessment, equivalent to an increase from 27.0% to 89.8% of the maximum score, or approximately 62.8 percentage points. This improvement is educationally substantial within the immediate classroom context. However, because the study employed a one-group pretest-posttest design and implemented several instructional components simultaneously, the findings should be interpreted as evidence of change associated with participation in the complete remedial program rather than as a causal estimate of the independent effect of the brochure. The results support the practical value of the brochure-supported remedial approach as implemented, but they do not demonstrate that the brochure by itself produced the observed improvement.

Preintervention Mastery of Active-Citizenship Concepts

The first research question examined the students' level of mastery before the brochure-supported remedial program. The pretest findings confirmed the classroom problem that motivated the action-research cycle. Of the 33 participating students, 19 (57.58%) demonstrated low mastery, 11 (33.33%) demonstrated very low mastery, and only three

(9.09%) reached moderate mastery. None demonstrated high or very high mastery. The mean pretest score of 10.8 out of 40 ($SD = 3.68$), equivalent to approximately 27% of the available score, further indicated substantial difficulty with the active-citizenship concepts assessed by the instrument.

This baseline pattern is important because the participants had already been identified through fourth-quarter formative and summative assessments as requiring intensive academic support. The low pretest performance therefore provided convergent evidence that their difficulty was not confined to a single previous classroom assessment but was also observable on the curriculum-aligned measure used in the study. Within the logic of classroom action research, this convergence strengthened the rationale for implementing a targeted remedial response rather than continuing instruction without modification.

The finding also has substantive relevance for civic and citizenship education. Conceptual knowledge constitutes an important foundation for interpreting civic institutions, responsibilities, rights, participation, and public issues. Zhang et al. (2012), in their analysis of adolescent civic learning, distinguished basic conceptual knowledge from advanced conceptual knowledge and civic process skills and found that foundational knowledge was important for the development of more advanced understanding. Similarly, Isac et al. (2011), using large-scale international data, demonstrated that students' civic knowledge was associated with opportunities for learning available within classrooms as well as individual and contextual characteristics. These findings suggest that persistent weaknesses in conceptual understanding warrant deliberate instructional attention because students may encounter difficulty engaging with more complex civic questions when foundational concepts remain insufficiently developed.

The findings align with this broader view by showing that remedial students entered the intervention with substantial weaknesses in the cognitive component of active citizenship. However, unlike studies examining broader civic outcomes, this study measured curriculum-aligned concept mastery rather than civic dispositions, intentions, participation, or behavior. Its contribution is therefore narrower and more directly tied to an identified classroom learning problem. This distinction is consistent with systematic-review evidence. Donbavand and Hoskins (2021) found that citizenship education can influence engagement-related outcomes, but controlled evidence does not support a simple progression from civic knowledge to civic participation. Jerome et al. (2024) likewise concluded that citizenship outcomes depend on broader educational experiences, including participatory practices, teacher roles, and school context. The findings therefore address one component of this process, students' conceptual understanding, without assuming that cognitive gains correspond to changes in civic behavior.

The present baseline findings should nevertheless remain specific to the participating group. The students were purposively selected because of demonstrated academic difficulty; consequently, their pretest scores should not be interpreted as representative of all Grade 10 students in the school. Rather, they characterize the particular remedial group for whom the classroom intervention was designed. This distinction is especially important when interpreting the magnitude of subsequent improvement because the participants began the program from an intentionally low academic baseline.

Postintervention Mastery of Active-Citizenship Concepts

The second research question examined students' mastery after the four-week remedial program. The posttest distribution showed a marked change from the preintervention pattern. Twenty-six students (78.79%) demonstrated very high mastery, while seven (21.21%)

demonstrated high mastery. No student remained in the moderate, low, or very-low categories. The mean posttest score increased to 35.9 out of 40 ($SD = 2.88$), corresponding to approximately 90% of the maximum available score. Thus, by the end of the intervention period, all participating students had reached at least the high-mastery category on the immediate posttest.

This change is educationally meaningful because it was not restricted to a small number of initially stronger students. The entire distribution shifted upward, suggesting that the remedial group as a whole demonstrated substantially stronger performance on the assessed active-citizenship content following instruction. For the immediate classroom problem that initiated the action-research cycle, the posttest results indicate that the participating students were able to demonstrate considerably greater short-term mastery than they had shown at baseline. This interpretation should remain focused on immediate assessed learning. It does not establish long-term retention or demonstrate that students subsequently enacted active-citizenship behaviors outside the classroom.

The finding is broadly consistent with previous research indicating that structured visual, print-based, and scaffolded instructional resources can support content learning. Wooten and Cuevas (2024) reported that Social Studies instruction informed by dual-coding principles supported vocabulary and comprehension by coordinating verbal and visual representations. Similarly, Caña and Brion (2023) found that informative content, relevance, and visual organization in infographics were associated with comprehension among Grade 10 Araling Panlipunan learners. Hareen and Wahyudi (2021) also reported positive learning outcomes associated with brochure-supported Social Studies instruction, while Pascual (2022) documented favorable performance associated with teacher-made brochures in mathematics and statistics.

The findings align with these studies in showing that compact visual-print resources can support instruction associated with improved academic performance. However, the studies differ in focus and context. Wooten and Cuevas (2024) examined dual-coded Social Studies instruction, Caña and Brion (2023) studied infographics and comprehension, Hareen and Wahyudi (2021) examined brochure-supported learning in another Social Studies context, and Pascual (2022) investigated brochures in mathematics and statistics. In contrast, this study involved low-performing Grade 10 students receiving targeted remediation on active-citizenship concepts in a Philippine public-school setting. It extends prior evidence by examining brochure-supported instruction within a remedial rather than regular whole-class intervention and by focusing on curriculum-aligned active-citizenship concept mastery.

Broader research likewise suggests that instructional organization matters more than the mere presence of visual material. Guo et al. (2020), in a systematic review of visual displays across K-12 content-area learning, concluded that visual representations can contribute to learning but cautioned that simply presenting visual displays does not guarantee positive outcomes. Their effectiveness depends partly on how learners interact with the representations and on the instructional support accompanying them. This conclusion is strengthened by the more recent systematic review and meta-analysis of Rexigel et al. (2024), which found benefits associated with multiple external representations but identified appropriate learner support as an important condition influencing their effectiveness. Together, these reviews suggest that visual and verbal representations are best understood as instructional resources whose value depends partly on how they are selected, integrated, explained, and used by learners. This qualification is directly relevant to the present intervention because the brochure was not provided as an isolated learning material. It was

used as the central resource within sessions that incorporated guided explanation, opportunities for questioning, collaborative activities, reflection, and practical applications.

The observed improvement is better interpreted as the product of interacting instructional mechanisms rather than the brochure alone. First, the brochure may have reduced the content's organizational demands by presenting key ideas through concise verbal and visual representations, making central concepts easier to locate, revisit, and connect. This interpretation is consistent with evidence that coordinated visual and verbal representations can support comprehension when integrated meaningfully with instruction (Guo et al., 2020; Wooten & Cuevas, 2024).

Second, teacher scaffolding may have helped students move beyond passive reading of the brochure. Guided explanation, questioning, clarification, and repeated attention to difficult concepts may have directed students to essential information and addressed emerging misconceptions. This interpretation aligns with the emphasis on structured, scaffolded instruction for adolescent comprehension (Vaughn & Wanzek, 2024). The brochure may therefore have organized the content, while teacher support helped students interpret and apply it.

Third, collaborative tasks may have enabled students to verbalize their understanding, compare interpretations, ask questions, and reconstruct ideas through peer interaction. From a constructivist perspective, such interaction can support learning by engaging students in active meaning-making rather than passive information reception (Efgivia et al., 2021). Collaborative processing may have been particularly useful for students who initially struggled to explain civic concepts.

Fourth, contextual application may have linked abstract civic terminology to situations familiar to students. Relating rights, responsibilities, participation, and community issues to personal or local examples may have made the content more meaningful and easier to retrieve. This interpretation aligns with Caña and Brion's (2023) finding that relevance, informative content, and visual organization were associated with comprehension among Grade 10 Araling Panlipunan students.

These mechanisms are best understood as complementary. The visual material organized the content, teacher scaffolding supported interpretation, collaborative activities required students to articulate and negotiate meaning, and contextual applications connected concepts to familiar situations. Repeated across 12 hours of remediation, these processes may collectively explain the students' stronger immediate performance. However, the study cannot isolate the contribution of each component or determine whether some combinations were more influential than others.

Recent systematic-review evidence further supports the broader principle that targeted instruction for learners experiencing academic difficulties is most usefully understood in terms of structured instructional components rather than a single material or medium. Dietrichson et al. (2021), synthesizing a large body of school-based intervention research, found positive effects of targeted intervention and identified small-group adult instruction and peer-assisted approaches among the more consistently supported practices. Although the reviewed studies primarily concerned reading and mathematics and younger learners, the findings reinforce the importance of structured interaction and targeted instructional support.

Evidence involving students with learning difficulties further supports this multicomponent interpretation. Swanson et al. (2014), in a synthesis and meta-analysis of Social Studies-based interventions for students with learning disabilities, found substantial positive effects for interventions incorporating instructional supports such as graphic

organizers, guided notes, questioning, and multicomponent comprehension instruction. Dexter and Hughes (2011) likewise reported moderate-to-large effects of graphic organizers on vocabulary, comprehension, and inferential knowledge among students with learning disabilities across content areas. More recent work on adolescent Social Studies comprehension has similarly emphasized structured and scaffolded instruction rather than reliance on a single instructional medium (Vaughn & Wanzek, 2024).

The present results are most appropriately interpreted as supporting the instructional value of the brochure-supported remedial program as a whole. The brochure may have helped organize essential concepts into a concise and visually accessible format, while teacher explanation, collaborative processing, reflection, practical examples, repetition, and opportunities for clarification may have reinforced understanding. This interpretation both converges with research emphasizing scaffolded and multicomponent instruction and differs from an interpretation in which instructional improvement is attributed to a single medium. The present study therefore contributes practice-based evidence that a brochure can be incorporated productively within a broader remedial structure, while leaving the independent contribution of the brochure unresolved. These processes offer theoretically plausible explanations for the observed improvement; however, because they were delivered simultaneously and were not measured as separate treatment components, the present study cannot determine their independent or relative contributions.

Pretest-Posttest Difference

The third research question examined whether students' pretest and posttest scores differed significantly. The paired-samples comparison demonstrated a mean increase of 25.1 points, from 10.8 to 35.9, $t(32) = 38.00$, $p < .001$, 95% CI [23.76, 26.44]. Expressed relative to the 40-point maximum, this represents an increase from 27.0% to 89.8%, or approximately 62.8 percentage points. Thus, the data provide strong statistical evidence of a pretest-posttest difference among the participating students. The confidence interval further indicates that the estimated average improvement was not only statistically detectable but substantial on the 40-point score scale.

The standardized paired effect, $d_z = 6.62$, also indicates an exceptionally large within-participant change. This value, however, requires particularly cautious interpretation. Cohen's d_z in a paired design expresses the average change relative to the variability of individual difference scores; it should not be interpreted as equivalent to an effect size derived from a randomized comparison between independent intervention and control groups. Nor should its magnitude be assumed to generalize to other groups, schools, interventions, or assessment conditions. The very large d_z strengthens the descriptive conclusion that these students changed markedly over the four-week period, but it does not strengthen the causal claim that the brochure produced that change.

Several characteristics of the present study may have contributed to the exceptionally large standardized change. First, the participants were purposively selected because of low previous academic performance, leaving considerable room for upward movement. Second, the same students were assessed before and immediately after a relatively intensive remedial period involving three 60-minute sessions per week for four weeks. Third, posttest scores were concentrated toward the upper end of the scale, with scores ranging from 31 to 40. This clustering suggests that the assessment may have had limited capacity to differentiate among students once high levels of immediate mastery were achieved. The resulting possibility of a ceiling effect means that the posttest may underestimate differences among students at the

upper end of performance and limits conclusions about how far mastery continued to develop beyond the assessed range. These factors do not invalidate the improvement observed, but they reinforce the need to interpret $d_z = 6.62$ as a descriptive index of unusually large within-group short-term change rather than as a transportable causal effect of brochure use.

The inferential result should also not be described simply as demonstrating that the improvement was "not due to chance." The value $p < .001$ indicates that the observed mean difference is highly inconsistent with a statistical null hypothesis of no average change under the assumptions of the paired-samples model. It does not rule out nonrandom alternative explanations arising from the study design. Statistical significance and causal identification are distinct issues, and maintaining that distinction is particularly important in a one-group pretest-posttest action-research design.

Interpreting the Improvement Within the Action-Research Design

The substantial improvement observed across the three research questions provides useful practice-based evidence, but the design does not permit strong causal attribution. Without a comparison group, the study does not provide a counterfactual estimate of how similar students would have performed over the same period under usual remediation or another instructional condition. Several plausible explanations therefore remain alongside an intervention-related explanation.

Testing effects may have contributed if exposure to the pretest familiarized students with the content or assessment format. Repeated exposure to the same curriculum domain during the four-week period may also have improved performance irrespective of the brochure itself. Because students were selected partly on the basis of low prior performance, regression toward more typical scores cannot be excluded. Other classroom experiences or learning support received during the intervention period may likewise have contributed to improvement. Although maturation is less compelling over a short four-week period, it cannot be completely separated from the intervention in the absence of a comparison condition.

More importantly, the intervention itself was deliberately multicomponent. Students received a brochure together with guided teaching, collaborative work, reflection, practical application, repetition, questioning opportunities, and teacher attention. Consequently, the present data do not support statements such as "the brochure caused the improvement" or "the brochure was responsible for the observed effect." A more defensible conclusion is that marked improvement occurred after students participated in a brochure-supported remedial program in which the brochure functioned as one component of a broader instructional approach. The strongest inference supported by the data is therefore temporal and program-level: students demonstrated substantially higher immediate test performance after completing the remedial program than before it. The study cannot identify which component, or combination of components, was necessary or sufficient to produce that change.

This interpretation does not diminish the practical significance of the findings. Classroom action research is intended to investigate and improve locally situated practice. From that perspective, the primary evidence is that the instructional problem identified during the planning stage was substantially reduced on the immediate outcome measure following implementation of the planned action. The findings therefore provide a basis for retaining the overall remedial approach while refining its implementation and testing its effects more rigorously in a subsequent cycle. The appropriate next step is not to treat the first cycle as definitive evidence of efficacy but to use the observed improvement and identified limitations to refine the subsequent cycle.

Limitations

Despite the strong improvement observed, the study has several methodological limitations. First, the one-group pretest-posttest design did not include a comparison group, limiting causal interpretation. The observed gains may partly reflect testing effects, repeated exposure to the content, other instructional support, maturation, or regression to the mean, particularly because participants were selected based on low prior performance. Second, the study involved only 33 purposively selected Grade 10 students from one school and one remedial Araling Panlipunan context, limiting statistical generalizability beyond this group. Third, the intervention combined the brochure with guided discussion, questioning, collaborative activities, reflection, practical application, and repeated instructional exposure; therefore, the specific contribution of the brochure cannot be isolated. Fourth, no nonparametric sensitivity analysis, such as the Wilcoxon signed-rank test, was conducted. Because the paired-samples t-test assumes approximate normality of the pretest-posttest difference scores, not of the pretest and posttest distributions separately, future studies or reanalyses using complete paired data should examine the distribution of these differences. If substantial nonnormality or influential outliers are present, the Wilcoxon signed-rank test can assess whether the substantive conclusion is robust to a nonparametric alternative. Fifth, the study assessed immediate conceptual mastery only. Without a delayed posttest, long-term retention cannot be established, and the findings do not demonstrate changes in broader active-citizenship outcomes such as dispositions, participation, decision-making, or community behavior. In addition, the clustering of posttest scores near the maximum indicates a possible ceiling effect, which may have restricted the instrument's ability to distinguish among students demonstrating the highest levels of immediate performance.

CONCLUSION

This classroom action research yielded several important conclusions regarding Grade 10 students' mastery of active-citizenship concepts in Araling Panlipunan. The findings showed that the participating students progressed from predominantly low and very low mastery before the intervention to uniformly high or very high mastery after the four-week brochure-supported multicomponent remedial program. The significant pretest-posttest improvement indicates that the identified classroom learning difficulty was substantially reduced on the immediate curriculum-aligned assessment. This observed change is attributed to students' participation in the remedial program as a whole rather than to the brochure as an independent instructional cause.

Pedagogically, the findings suggest that structured remediation can provide meaningful support for learners who have not attained expected mastery through regular instruction. In the present study, the brochure functioned as part of a broader instructional approach that integrated concise visual-print content with guided discussion, questioning, collaborative activities, reflection, and practical application. The improvement observed in students' immediate test performance should be interpreted as associated with this combined instructional approach, in which the brochure served as one component among several mutually reinforcing supports.

For practice, teachers may consider the cautious and monitored use of similar structured remedial approaches for learners with comparable needs. Future research should examine the durability of learning through delayed assessment, incorporate broader measures of civic reasoning and participation, and use comparison conditions where feasible to

strengthen causal inference and clarify the contribution of specific instructional components. The study provides practice-based evidence that participation in a brochure-supported multicomponent remedial program was associated with substantial short-term improvement in conceptual learning among the participating Grade 10 students, while leaving the independent effect of the brochure unresolved.

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