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Student-Created Case Studies and Conceptual Understanding in Pancasila Education: A Quasi-Experimental Study among Elementary School Students

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Abstract. *The urgency of this study lies in the need to enhance students' conceptual understanding in Pancasila Education through active engagement in creating contextual case studies. Conceptual understanding is one of the key skills students need to develop in Pancasila Education. However, preliminary test results indicate that some students still struggle to grasp these concepts. This study aims to determine the difference in the average conceptual understanding of students between the experimental class, which used the Student Created Case Studies method, and the control class, which used the lecture method. This study employed a quantitative approach using a quasi-experimental method and a Nonequivalent Control Group Design. The study population consisted of 86 students, with a sample of 26 students from Class V-B serving as the control group and 29 students from Class V-C serving as the experimental group, selected through purposive sampling. Data were collected through essay tests and observations, then analyzed using tests for normality, homogeneity, the independent samples t-test, the Mann-Whitney test, and the N-Gain at a 5% significance level. The results of the study showed that the class that implemented Student-Created Case Studies achieved a mean posttest score of 72.14 and an N-Gain of 0.51 (moderate category), while the class using the lecture method achieved a mean posttest score of 64.92 and an N-Gain of 0.39 (moderate category). The Mann-Whitney test yielded a p-value of 0.002 < 0.05, so H_1 was accepted and H_0 was rejected. Thus, there was a significant difference in the improvement of conceptual understanding, with the Student Created Case Studies method showing a greater improvement compared to the lecture method.*

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Introduction

In line with the rapid advancement of science and technology, Pancasila Education is required to prepare students to face the challenges of the digital age. The values embodied in Pancasila must be instilled from an early age so that the younger generation can become the nation's future leaders who play an active role in realizing the aspirations of the Indonesian people (Arum et al. 2025). In addressing these challenges, education plays a vital role in shaping students so that they can understand, master, and make effective use of technology (Permatasari et al., 2024). Pancasila Education at the elementary level should extend beyond memorizing principles, symbols, or civic terminology. It should enable students to explain meanings, relate

ideas, evaluate social situations, and apply Pancasila values to everyday problems. Conceptual understanding is a student's ability to accurately grasp, interpret, and apply the material they have learned (Manik et al., 2025). Conceptual understanding is therefore essential because civic knowledge becomes educationally meaningful when it can be used to interpret social experience and guide decisions. Reviews of citizenship education suggest that contextual, participatory instruction and opportunities for democratic experience are more promising for developing civic competence than content transmission alone (Teegelbeckers et al., 2023).

Elementary students still need concrete examples to understand social and normative concepts (Hasnawiyah et al., 2025). Cooperation, responsibility, unity, and relationships between regional conditions and community life are easier to understand when connected to familiar situations. Students also need opportunities to express and reconsider viewpoints because citizenship learning concerns how people live together (Rapanta et al., 2021; Enright et al., 2023). Research on classroom dialogue indicates that structured talk can support learning when students provide reasons, respond to ideas, and construct conclusions together (Howe & Abedin, 2013). These expectations were not fully reflected in the preliminary conditions observed in Grade 5 at s Madrasah Ibtidaiyah in Bandung.

Pancasila Education was still predominantly teacher-centered, with limited opportunities for discussion, justification, example generation, and application. Of 86 students, 65 (75.58%) had not reached the minimum mastery criterion of 70. These data do not independently establish the cause of low achievement, but they indicate a gap between expected and demonstrated mastery and justify examining a more student-centered strategy. Active learning provides a general framework for addressing this need. Reviews and meta-analyses show that student engagement in meaningful learning activities is generally associated with better achievement than predominantly receiving information (Brod, 2021; Kozanitis & Nenciovici, 2023). Benefits may also extend across student groups, although outcomes depend on activity design and instructional support (Theobald et al., 2020). Active learning should therefore involve processing, connecting, and generating ideas rather than merely moving, talking, or completing tasks.

The Interactive-Constructive-Active-Passive (ICAP) framework differentiates engagement by the cognitive processes reflected in observable activity. Passive engagement involves receiving information; active engagement involves manipulating given information; constructive engagement requires producing new outputs such as explanations or examples; and interactive engagement involves jointly developing understanding through responsive exchanges (Chi, 2021). Creating cases can therefore be constructive, while analyzing and discussing them can become interactive when students justify and respond to one another's ideas. Student-Created Case Studies embodies these characteristics. Students do not merely analyze teacher-provided cases; they develop cases related to the target concepts. They identify a situation, formulate a problem, describe relevant actors, connect the problem to course content, discuss alternatives, and present a proposed resolution. Creating a case requires students to select relevant information and translate abstract concepts into a specific situation, while case analysis supports interpretation and extrapolation.

Case-based and problem-based learning literature supports the use of contextual problems to organize learning (Ponsa & Wati, 2025). Cases connect theory with bounded situations, actors, and consequences that can be examined. Meta-analytic evidence indicates potential benefits for applying knowledge and skills, although

outcomes depend on assessment and implementation quality (Wijnia et al., 2024). Effective case learning also requires prompts, facilitation, and reflection (McLean, 2016). Much of the case-based evidence comes from higher and professional education. Its general mechanisms-contextualization, explanation generation, perspective exchange, and concept application-can inform elementary instruction, but findings cannot be transferred uncritically. Language, complexity, discussion time, and teacher support must be developmentally appropriate. Accordingly, the present study used familiar social situations, guiding questions, short examples, group work, and presentations.

Student-Created Case Studies is also grounded in collaborative learning. Groups can become spaces for testing understanding when students share responsibility, explain reasons, and evaluate alternatives. Cooperative learning is most productive when it includes common goals, individual accountability, and supportive interaction rather than simple task division (Stanczak et al., 2022). Productive exchanges also require students to build on their peers' contributions, while teachers guide questions, clarify concepts, and distribute participation (Howe et al., 2019). In Pancasila Education, student-generated cases may connect conceptual knowledge with civic experience. Civic learning opportunities involving issue discussion, participation, and social experience have been associated with civic commitment. More recent reviews find dialogic and participatory approaches promising, while also noting variation in the quality of school intervention evidence (Teegelbeckers et al., 2023). Context-specific research with transparent reporting of design and implementation therefore remains necessary.

Several Indonesian studies have examined Student-Created Case Studies or related methods. The previous studied reported its use in elementary civic education, examined economics learning, and the previous studied reported contributions of case-based learning to concept mastery (Dewi et al., 2021; Saroh et al., 2022; Citrawathi & Adnyana, 2023). Participant-created cases and conceptual understanding. Nevertheless, evidence specifically comparing Student-Created Case Studies with lecture-based instruction for conceptual understanding in elementary Pancasila Education remains limited (Pratiwi, 2019). This limitation matters because findings from other subjects, age groups, and instructional settings cannot be assumed to operate identically in an elementary civic classroom. The cognitive demand of creating a coherent case may promote elaboration, but it may also overload learners when concepts, reading demands, or group roles are insufficiently scaffolded. A direct comparison within the intended setting is consequently needed to examine both the attainable learning difference and the practical conditions under which the strategy is implemented.

Student-Created Case Studies should be distinguished from cases designed entirely by teachers. With teacher-designed cases, students analyze information and choices that have already been framed. In the student-created version, learners must first select a situation that represents the concept, identify relevant information, and formulate an analyzable problem. This generative stage adds cognitive demands before problem solving. It may encourage learners to retrieve prior knowledge, identify essential attributes, and recognize whether an example genuinely represents the intended concept. Case exchange then exposes each group to representations produced by peers and creates a reason to explain or revise its interpretation. Studies in higher education suggest that student-created cases can support both learning and assessment through iterative writing, review, exchange, and solution processes (Bindelli et al., 2021; Vani et al., 2022). For elementary use, however, these processes require short tasks, explicit criteria, teacher monitoring, and opportunities to correct misconceptions. The value of

student generation consequently depends on instructional structure rather than authorship alone.

The lecture-based condition was selected as an active comparison rather than a no-treatment group. It received the same learning objectives, topics, time allocation, teacher explanations, examples, questions, and exercises. The principal contrast concerned case generation, collaborative analysis, and presentation. This design provides a more meaningful comparison, although teacher effects, class characteristics, and other uncontrolled influences cannot be completely separated. Assessment also required more than an end-point comparison. The pretest examined measured baseline similarity, the posttest represented achievement after instruction, and normalized gain summarized improvement relative to the remaining possible gain. Because normalized gain is influenced by initial scores and the scale ceiling, it should not be used alone. Effect sizes were therefore reported to indicate the magnitude of group differences in addition to statistical significance.

The study offers contextual and pedagogical contributions. Contextually, it focuses on Grade 5 Pancasila Education concerning regional conditions, community life, cooperation, responsibility, and unity. Pedagogically, students served as both case creators and case analysts. Conceptual understanding was operationalized through translation, interpretation, and extrapolation. Correct recall may show that students recognize terminology, but it does not necessarily show that they can restate an idea, distinguish related concepts, infer consequences, or select a justified response. Translation requires learners to express meaning in an accessible form; interpretation requires them to organize relationships and explain why elements differ or connect; and extrapolation requires them to extend an idea to a possible consequence or action. These complementary processes are especially relevant to civic learning because concepts are expected to inform judgments beyond textbook examples. The study reports descriptive statistics, normalized gain, significance tests, effect sizes, and implementation evidence to support a more complete interpretation.

The novelty of the present study lies in combining elementary Pancasila Education, student generation of the cases themselves, and comparison with an active lecture-based condition using both final achievement and normalized improvement. Existing research supports active, collaborative, and case-based learning in broad terms, yet it does not resolve whether Grade 5 students can productively construct cases or whether this added generative demand is associated with a measurable advantage over instruction covering the same objectives and topics. The study therefore addresses a contextual evidence gap rather than claiming universal superiority. Its contribution is also practical: it examines a strategy that uses familiar classroom topics and student-produced material rather than requiring specialized technology or extensive external resources. This makes implementation potentially accessible while preserving the need for careful facilitation and conceptual checking. The study aimed to (1) describe conceptual understanding before and after instruction in the Student-Created Case Studies and lecture-based groups, (2) compare final conceptual understanding, and (3) compare improvement between groups. It was hypothesized that the Student-Created Case Studies group would show greater improvement. Because students were not individually randomized, conclusions are framed as between-condition differences in a quasi-experimental context rather than fully unconfounded causal effects.

Method

Design and Participants

This quantitative study used a quasi-experimental nonequivalent control-group pretest-posttest design. Two intact classes were compared. Class V-C received Student-Created Case Studies, while Class V-B received lecture-based instruction. Individual random assignment was not feasible because the study followed the school's existing class organization. The population comprised 86 Grade 5 students at a Madrasah Ibtidaiyah in Bandung. Classes were selected purposively based on grade level, schedule, content coverage, and school information indicating relatively comparable academic characteristics. Complete pretest and posttest data were available for 29 intervention students and 26 comparison students (N = 55). Baseline equivalence was not assumed but evaluated through the pretest comparison.

Table 1. *Study Sequence and Learning Topics*

Stage and topic	Student-Created Case Studies (n = 29)	Lecture-based instruction (n = 26)
Conceptual understanding pretest	May 7, 2026	May 7, 2026
Meeting 1: Characteristics of terrestrial and aquatic areas	May 13, 2026	May 11, 2026
Meeting 2: Differences in community life in regencies and cities	May 14, 2026	May 12, 2026
Meeting 3: Relationships between regional conditions and socioeconomic activities	May 20, 2026	May 18, 2026
Meeting 4: Cooperation and responsibility in maintaining unity	May 21, 2026	May 19, 2026
Conceptual understanding posttest	May 22, 2026	May 20, 2026

The study was conducted in May 2026. Both groups completed the pretest on May 7. The comparison group attended four lessons on May 11, 12, 18, and 19 and completed the posttest on May 20. The intervention group attended lessons on May 13, 14, 20, and 21 and completed the posttest on May 22. The shared topics and study sequence are presented in Table 1.

Intervention and Comparison Conditions

Table 2. *Comparison of the Instructional Conditions*

Aspect	Student-Created Case Studies	Lecture-based instruction
Opening	Concept orientation, brief example, and prompting questions	Teacher explanation and examples
Main activity	Students create, analyze, and discuss cases	Students listen to explanations and complete exercises
Interaction	Group discussion, presentation, and intergroup responses	Question-and-answer interaction mainly between teacher and students
Teacher role	Facilitator, questioner, and concept clarifier	Primary source of explanation and exercise guidance
Learning product	Cases, analyses, alternative solutions, and reflection	Exercise answers and content summaries
Closure	Concept reinforcement based on discussed cases	Restatement of key content

Student-Created Case Studies proceeded through concept orientation, group formation, situation identification, case construction, analysis, presentation, intergroup response, reinforcement, and reflection. The teacher briefly introduced key concepts, boundaries, and prompting questions. Students then developed cases, identified the relevant concepts, proposed solutions, presented their work, and responded to other groups before teacher clarification. The comparison group studied the same topics through lecture-based instruction. The teacher explained concepts, provided examples,

checked understanding, and guided exercises. This was not a no-instruction condition; it received equivalent objectives, topics, instructional time, and opportunities to ask questions. The main differences between the conditions are summarized in Table 2.

Measures and Data Collection

Conceptual understanding was assessed with nine essay questions scored from 1 to 4. Raw scores ranged from 9 to 36 and were converted to a 0-100 scale using (obtained score/36) x 100. The items represented translation, interpretation, and extrapolation. Translation concerned restating a concept in one's own words; interpretation concerned explaining differences and relationships; and extrapolation concerned predicting consequences or proposing concept-based actions. Available evidence for instrument quality included item-total correlations of .439-.637 and Cronbach's alpha of .705. Discrimination indices ranged from .26 to .51 (four adequate and five good items), while difficulty indices ranged from .45 to .71 (eight moderate and one easy item). The documentation did not report the pilot sample size, expert content validation, or interrater reliability; therefore, only the available evidence is reported.

Table 3. *Conceptual Understanding Scoring Rubric*

Score 4	Score 3	Score 2	Score 1
Indicator: Translation Explains the concept fully, clearly, and accurately in own words and provides a relevant example.	Accurate but incomplete explanation.	Explains part of the concept with some errors.	Does not explain the concept meaningfully.
Indicator: Interpretation Explains differences and relationships among concepts fully and accurately.	Accurate but incomplete relationships.	Explains some relationships with errors.	Does not explain differences or relationships correctly.
Indicator: Extrapolation Predicts consequences or actions logically, clearly, and relevantly.	Relevant prediction with limited depth.	Prediction is inaccurate or insufficiently concept-based.	Does not make a prediction or provides an irrelevant response.

Observation sheets documented teacher and student implementation during each session. Scores were converted to percentages, while lesson plans, worksheets, teaching materials, instruments, student work, and scores supported process documentation. The scoring criteria for the essay test are provided in Table 3.

Table 4. *Activity Implementation Categories*

Percentage	Category
80-100	Very good
66-<80	Good
56-<66	Adequate
40-<56	Poor
0-<40	Very poor

Table 3 defines the scoring levels for each conceptual-understanding indicator. For the observation data, Table 4 provides the percentage categories used to interpret teacher and student activity.

Data Analysis

Table 5. *Normalized Gain Categories*

Normalized gain	Category
g >= .70	High
.30 <= g < .70	Moderate
g < .30	Low

Descriptive analysis included minimum, maximum, mean pretest, mean posttest, raw change, and normalized gain. Normalized gain was calculated as g = (posttest - pretest)/(100 - pretest). Values of g >= .70 were classified as high, .30 <= g < .70 as moderate, and g < .30 as low. The categories are summarized in Table 5; normalized gain was interpreted as a supplementary summary rather than the sole evidence of effectiveness. Normality was examined using the Shapiro-Wilk test and variance homogeneity using Levene's test at alpha = .05. Because pretest and posttest scores met the relevant assumptions, between-group comparisons used independent-samples t tests. Normalized gain was nonnormal in both groups and was compared using the Mann-Whitney test. The t-test degrees of freedom were n1 + n2 - 2 = 53. Hedges' g was derived from the available t statistic and group sizes to reduce small-sample bias; the Mann-Whitney effect size was r = |Z|/sqrt(N). Statistical decisions used p < .05 and were interpreted together with group differences, effect sizes, design limitations, and implementation evidence. Analyses were conducted in SPSS 26, with additional effect sizes calculated from the available statistics.

Ethical Considerations

The study was conducted under research permission issued by UIN Sunan Gunung Djati Bandung, Letter No. B.665/Un.05/III.2/TL.00.9/04/2026, and implementation permission from Madrasah Ibtidaiyah in Bandung, Letter No. B-096/Mi.10.19.2/HM.02-3/07/2026. Implementation was coordinated with the school and aligned with regular learning activities. Data were used solely for research and academic reporting. Student identities were kept confidential, excluded from analysis and publication, and findings were reported in aggregate.

Results and Discussion

Results

Table 6. *Descriptive Statistics for Conceptual Understanding Scores*

Group	Pretest		Posttest		Raw change	N-gain min-max	Mean N-gain
	Min-max	Mean	Min-max	Mean			
Intervention (n=29)	30.55-58.33	42.86	52.77-94.44	72.14	29.28	.31-.86	.51 (moderate)
Comparison (n=26)	25.00-63.88	42.31	52.77-83.33	64.92	22.61	.20-.68	.39 (moderate)

Complete data were obtained from 55 students. The intervention and comparison groups had similar descriptive pretest means (42.86 and 42.31, respectively). After four lessons, the intervention mean increased to 72.14, while the comparison mean increased to 64.92. The corresponding raw mean changes were 29.28 and 22.61 points. The intervention group's mean normalized gain was .51 and the comparison group's was .39. Both were classified as moderate, but the intervention mean was .12 higher. Student responses varied: normalized gain ranged from .31 to .86 in the intervention group and from .20 to .68 in the comparison group. The full descriptive statistics are shown in Table 6.

Implementation of Instruction

Table 7. *Teacher and Student Activity Implementation*

Group and activity	Meeting 1	Meeting 2	Meeting 3	Meeting 4	Mean	Category
Teacher-Intervention	86.95	96.65	100.00	100.00	95.90	Very good
Student-Intervention	72.48	75.65	86.37	91.17	81.41	Very good
Teacher-Comparison	76.19	90.47	95.23	100.00	90.47	Very good
Student-Comparison	72.26	73.07	74.76	81.03	75.28	Good

Teacher activity in the intervention group increased from 86.95% in the first meeting to 100% in the final two meetings, with a mean of 95.90% (very good). Student activity increased from 72.48% to 91.17%, with a mean of 81.41% (very good). In the comparison group, teacher activity averaged 90.47% (very good), while student activity averaged 75.28% (good). Table 7 presents the session-level results. These observations are treated as implementation evidence rather than a tested mediator.

Baseline Comparison

Table 8. *Baseline Statistical Tests*

Analysis	Group/statistic	Value	p	Decision
Shapiro-Wilk	Intervention	W = .944	.167	Normal
Shapiro-Wilk	Comparison	W = .958	.352	Normal
Levene	Both groups	F(1, 53) = .473	.495	Equal variances
t test	Both groups	t(53) = .228; d approximately .06	.821	Not significant

Intervention and comparison pretest scores met the normality assumption, W = .944, p = .167 and W = .958, p = .352, respectively. Levene's test indicated no significant variance difference, F(1, 53) = .473, p = .495. The pretest means did not differ significantly, t(53) = .228, p = .821, with a very small derived effect, d approximately .06. Table 8 summarizes these baseline tests. Similar measured baselines do not eliminate possible differences in unmeasured characteristics.

Final Achievement and Improvement

Table 9. *Posttest Statistical Tests*

Analysis	Group/statistic	Value	p	Decision
Shapiro-Wilk	Intervention	W = .941	.142	Normal
Shapiro-Wilk	Comparison	W = .951	.240	Normal
Levene	Both groups	F(1, 53) = 1.700	.198	Equal variances
t test	Both groups	t(53) = 3.264; g approximately .87	.002	Significant difference

Posttest scores met normality in the intervention and comparison groups, W = .941, p = .142 and W = .951, p = .240, respectively. Levene's test was nonsignificant, F(1, 53) = 1.700, p = .198. The posttest comparison yielded t(53) = 3.264, p = .002. The 7.22-point mean difference favored the intervention, with Cohen's d approximately .88 and Hedges' g approximately .87. The posttest tests are reported in Table 9.

Table 10. *Normalized Gain Statistical Tests*

Analysis	Group/statistic	Value	p	Decision
Shapiro-Wilk	Intervention	W = .906	.022	Nonnormal
Shapiro-Wilk	Comparison	W = .919	.043	Nonnormal
Mann-Whitney	Both groups	Z = -3.059; r = .412	.002	Significant difference

Normalized gain was nonnormal in the intervention group, W = .906, p = .022, and comparison group, W = .919, p = .043. The Mann-Whitney result was Z = -3.059, p = .002, with r = .412; U and mean ranks were unavailable. Table 10 summarizes these tests.

Discussion

Both groups improved, but improvement was greater under Student-Created Case Studies. The intervention posttest mean was 72.14 compared with 64.92 in the comparison group. The significant difference was accompanied by Hedges' g approximately .87, while the normalized-gain comparison produced r = .41. Reporting effect size alongside p values is important because statistical significance is sample-size dependent, whereas effect size addresses the magnitude of the difference. The nonsignificant pretest difference and very small baseline effect support similarity in

measured initial achievement. Nevertheless, the nonequivalent design used intact classes, so this result does not establish comprehensive equivalence. Motivation, class dynamics, family support, previous learning, and other unmeasured characteristics may have differed. Baseline checks aid interpretation but do not replace randomization (Holmberg & Andersen, 2022). The intervention advantage can be interpreted through the cognitive demands of the activities. Students transformed concepts into cases, selected relevant elements, constructed causal relationships, and explained possible resolutions. Under ICAP, producing examples or explanations reflects constructive engagement, whereas building ideas through reciprocal responses reflects interactive engagement. These mechanisms correspond to the three conceptual-understanding indicators. Students translated concepts into case language, interpreted relationships between regional conditions and community life, and extrapolated consequences or possible actions. Applying concepts in new contexts is a frequently identified benefit of problem- and case-based learning (Yang et al., 2023). Student-created cases may also reduce the distance between Pancasila concepts and everyday life. Abstract content was placed in events involving actors, problems, choices, and consequences. Case-based learning can help organize knowledge and consider its application (McLean, 2016), but analytical questions and concept reinforcement remain necessary so that cases do not become stories without learning purpose.

Group discussion and presentation may have expanded opportunities to test explanations. Students encountered alternative interpretations, asked questions, and revised responses. Dialogue benefits learning when participants give reasons, connect contributions, and reach shared conclusions (Howe & Abedin, 2013; Howe et al., 2019). Cooperative work likewise requires positive interdependence and individual accountability. The present study did not directly code dialogue quality. The results align with general active-learning evidence. The average benefits over traditional lecturing in undergraduate STEM, while the emphasized that evidence varies across forms of active learning. These studies support a general mechanism rather than direct generalization because the present participants and subject matter differ. The current findings provide contextual evidence that generative case work can be developmentally adapted for Grade 5 students.

The comparison group also improved by 22.61 points and achieved a normalized gain of .39. This group received instruction, examples, exercises, and opportunities to ask questions; lecture-based teaching was not equivalent to no learning. Direct explanation may remain useful when it helps organize information, and perceived fluency does not always correspond to actual achievement (Deslauriers et al., 2019). The findings therefore indicate an incremental advantage of creating and analyzing cases rather than the ineffectiveness of lectures. Both normalized gains were categorized as moderate, but identical categories do not imply identical improvement. Values of .51 and .39 differ numerically, and their distributions differed significantly. Continuous values should accompany categories to avoid information loss. Normalized gain is also sensitive to baseline scores and the scale ceiling, which is why posttest comparisons and effect sizes were also reported. Although the posttest t test showed a large difference, an individual-level baseline-adjusted analysis could provide a more efficient estimate if raw data were available. Methodological literature generally recommends posttest analysis with baseline adjustment, such as ANCOVA, rather than relying only on change scores when assumptions are satisfied. Future studies should plan baseline-adjusted analyses and confidence intervals prospectively. Hedges' g approximately .87 was derived from

the t statistic and group sizes because group standard deviations were unavailable in the summarized output.

This estimate should be recalculated if individual data or standard deviations become available. Hedges' g was preferred to reduce small-sample bias, consistent with effect-size guidance for pretest-posttest control-group designs. The Mann-Whitney r describes distributional separation rather than the proportion of students who benefited. Implementation observations indicate that both conditions were delivered as intended. Teacher activity was very good in both groups, while student activity averaged 81.41% in the intervention group and 75.28% in the comparison group. The upward pattern suggests adaptation to case creation procedures. Meeting-level improvement is plausible when students become familiar with group roles, case components, presentation expectations, and the types of explanations requested by the teacher. At the same time, percentage categories compress differences and do not identify which particular behaviors were most educationally important. A high activity percentage may reflect task completion without revealing the quality of reasoning, accuracy of peer feedback, or distribution of participation. The observation results are therefore best treated as evidence that the procedure was implemented, not as proof of the cognitive mechanism. Establishing mediation would require repeated measures of engagement, coded dialogue or case quality, reliable independent observers, and an analysis linking those process indicators to individual learning gains.

Case-based activity has additional relevance in Pancasila Education because it invites students to consider actions in shared social life. Citizenship education that connects content, participation, and social experience may support civic competence, while opportunities to discuss social issues are associated with civic commitment (Kahne & Sporte, 2008). In the present lessons, topics concerning regional characteristics, community activities, cooperation, responsibility, and unity offered a concrete bridge between disciplinary content and social judgment. Students had to decide which facts were relevant, whose interests were involved, and how a proposed action related to the concept being learned. These tasks may make conceptual relations more visible than isolated definitions. However, the assessment measured conceptual understanding only; it did not measure value internalization, civic disposition, participation, or behavior. The results therefore support a cognitive interpretation and should not be extended to broader character outcomes without additional evidence.

Practically, teachers can implement Student-Created Case Studies without preparing lengthy cases. They can specify the concept, situational boundaries, prompts, and criteria. For elementary students, cases should be short, use accessible language, focus on one main problem, and relate to home, school, or community life. Worksheets may ask what happened, who was involved, which concept applies, why the problem occurred, what actions are possible, and what consequences may follow. A gradual sequence is advisable: the teacher can first model a short case and a concept-based analysis, then provide a partially structured case, and finally ask groups to construct one more independently. This progression can reduce avoidable writing demands while preserving the generative element. It also allows the teacher to identify misconceptions before they become embedded in a presentation or copied by other groups.

Facilitation remains essential. Teachers should check conceptual accuracy before presentations, assign roles to distribute participation, and ask groups to justify answers. Questions such as 'Which concept supports your answer?', 'What would happen if that action were taken?', and 'Is there another alternative?' can prompt translation,

interpretation, and extrapolation. Scaffolding is particularly important for students with limited prior knowledge (Wijnia et al., 2024). Group roles can include case writer, concept checker, evidence finder, presenter, and respondent, with roles rotated across meetings. Such organization does not guarantee equal cognitive participation, but it makes accountability more visible and can reduce domination by a small number of students. Short individual reflections after group work can further show whether each learner can articulate the targeted concept independently. Case creation must also be balanced with conceptual reinforcement. Limited class time can shift attention toward storytelling or presentation design. Teachers can constrain case length, provide examples and nonexamples, and close lessons with a concept map or summary. Success depends not merely on having a case but on aligning the case, prompts, discussion, and assessment (Bindelli et al., 2021; Vani et al., 2022). The scoring rubric can be shared before the activity so students understand that conceptual accuracy, explanation of relationships, and reasoned consequences are more important than decorative detail. At the end of each lesson, the teacher should explicitly reconnect the cases to the learning objective and correct ambiguous generalizations. This consolidation is necessary because an engaging discussion can still leave inaccurate ideas unchallenged.

1). The study involved only two classes in one school, limiting generalizability to other schools, regions, and student characteristics; 2). Purposive class selection without randomization leaves possible selection bias and unmeasured class influences; 3). The intervention lasted only four meetings and did not include a delayed posttest, so retention is unknown; 4). The same test form was used at pretest and posttest, which may have introduced familiarity effects; 5). Instrument documentation did not report expert content validation, pilot sample size, or interrater reliability, which is particularly important for essay scoring; 6). Teacher or researcher involvement may have introduced differences in enthusiasm or expectations across conditions; 7). Activity observations were not supported by interobserver reliability evidence; 8). Indicator-level scores were unavailable, preventing comparison of benefits for translation, interpretation, and extrapolation; 9). The available Mann-Whitney output did not report U or mean ranks, and the posttest effect size was derived indirectly.

Future research should involve more schools and classes, use cluster randomization where feasible, and separate teaching from assessment roles. Essay instruments should undergo expert review, documented piloting, and independent blinded scoring. Delayed posttests can examine retention, while individual data can support ANCOVA or multilevel models that account for baseline scores and class clustering. Process studies should also examine case quality, dialogue, motivation, and engagement as potential mechanisms. Replication should document teacher preparation, group composition, case prompts, time on task, deviations from the lesson plan, and any support provided to particular students. Reporting these features would clarify whether outcomes depend on the core generative activity or on surrounding implementation choices. Comparative studies could also examine teacher-created, partially completed, and fully student-created cases to identify how much structure elementary learners need at different levels of prior knowledge. Overall, Student-Created Case Studies is a promising option for strengthening conceptual understanding in Pancasila Education. Its contribution lies in requiring students to generate, apply, and discuss concepts in familiar situations. Benefits do not arise from the method label alone; teachers must ensure accurate content, adequate scaffolding, individual accountability, reasoned dialogue, and conceptual consolidation. Under these conditions, case creation can shift students from receiving information to constructing meaning.

Conclusion

Student-Created Case Studies was associated with greater improvement in conceptual understanding than lecture-based instruction among the Grade 5 students studied. The intervention and comparison posttest means were 72.14 and 64.92, respectively, t(53) = 3.264, p = .002, with a large effect (Hedges' g approximately .87). Mean normalized gain was .51 in the intervention group and .39 in the comparison group; the distributions also differed significantly, Z = -3.059, p = .002, with a moderate effect (r = .41). Creating, analyzing, discussing, and presenting cases may support translation, interpretation, and extrapolation of concepts. The findings are limited by two intact classes from one school, absence of randomization, a short intervention, use of the same pretest and posttest form, no delayed posttest, limited validity evidence, and unavailable interrater reliability and indicator-level scores. Future research should involve more schools and classes, independent raters, retention measures, indicator-level analyses, and models that adjust for baseline achievement and class clustering. Case quality and classroom dialogue should also be examined as mechanisms of conceptual change.

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