ETDC Indonesian Journal of Research and Educational Review
Volume 5, No. 3, 2026, pp 2029 - 2040
e–ISSN 2809-3682
p–ISSN 2809-7505

https://doi.org/10.51574/ijrer.v5i3.5078

Think Pair Share Learning Model Based on Differentiated Instructions: Improving Civics Learning Outcomes in Elementary School Students

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Article Info

Article history:

Received April 15, 2026
Accepted May 31, 2026
Published June 20, 2026

Keywords:

Civic Education;
Classroom Action Research;
Cooperative Learning;
Differentiated Instruction;
Think Pair Share.

ABSTRACT

Low Civics (Pancasila and Citizenship Education/PPKn) learning outcomes in elementary schools remain a persistent challenge, often attributed to teacher-centered instruction that fails to accommodate learner diversity. This study aimed to improve PPKn learning outcomes among fifth-grade students by implementing the Think Pair Share (TPS) cooperative learning model integrated with Differentiated Instruction (DI) strategies. A Classroom Action Research (CAR) design following the Kemmis and McTaggart cyclical model was employed across two intervention cycles. Thirty fifth-grade students (17 male, 13 female) at Elementary School 1 Sabaru, Indonesia, participated in the study. Data were collected through written cycle tests, structured observation sheets for teacher and student activity, and documentation analysis. Classical completion rates and descriptive statistics were used for quantitative analysis, complemented by narrative qualitative reflection. Classical mastery improved dramatically from 23.3% at baseline to 66.7% after Cycle I and 90.0% after Cycle II, surpassing the 85% success threshold. Teacher activity scores rose from 56% (low qualification) to 94% (very high qualification), while student activity scores increased from 33% (very low) to 83% (very high) across the two cycles. The integration of TPS and differentiated instruction created an inclusive, student-centered classroom climate that significantly enhanced conceptual understanding, critical thinking, collaborative skills, and learner confidence. These findings provide empirical support for adopting the TPS-DI model as a transformative pedagogical strategy in elementary Civics education.

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1. INTRODUCTION

Quality civic education at the elementary level is foundational to the formation of informed, responsible, and collaborative citizens (Abendschön et al., 2022; Kolway et al., 2026; Utami & Sanjaya, 2025). In Indonesia, Pancasila and Citizenship Education (*Pendidikan Pancasila dan Kewarganegaraan*, PPKn) serves as the primary vehicle for

transmitting constitutional values, national identity, and civic competencies from an early age (Mulyana, 2024; Situmeang et al., 2023). Underpinned by the national education framework (Undang-Undang RI No. 20, 2003), PPKn encompasses three interrelated dimensions: civic knowledge, civic disposition, and civic skills (Manik & Dharma, 2024). However, decades of pedagogical observation reveal a persistent gap between the aspirational goals of PPKn and actual classroom practice (White et al., 2023).

Children in upper elementary grades occupy the transitional phase between Piaget's concrete operational and formal operational stages (Zhan et al., 2022). During this period, meaningful learning requires active engagement, collaborative inquiry, and opportunities to contextualize abstract concepts within real-life experience. Yet prevailing classroom conditions at many Indonesian elementary schools are characterised by teacher-centred, lecture-based instruction that treats the class as a homogeneous whole (Rachmadtullah et al., 2025). The consequence is predictable: student passivity, motivational decline, and inequitable learning outcomes—particularly for learners whose cognitive pace, interests, or preferred modalities diverge from the assumed norm (Hasanah et al., 2022).

A preliminary diagnostic conducted at Elementary School 1 Sabaru, a public elementary school in South Sulawesi, Indonesia, confirmed this pattern. Of 30 fifth-grade students, only 7 (23.3%) achieved the Minimum Completion Criteria (Kriteria Ketuntasan Minimal, KKM ≥ 70) in PPKn. Classroom observations revealed that a small cohort of high-achieving students dominated discourse while the majority remained disengaged spectators—a dynamic consistent with Slavin's (2016) descriptions of unstructured cooperative classrooms. The root cause was identified as the implementation of a uniform instructional model that failed to acknowledge the heterogeneous learning readiness, interest profiles, and sensory preferences (visual, auditory, kinesthetic) of the student population.

Two theoretically grounded interventions address complementary aspects of this problem. Think Pair Share (TPS), originally developed by Frank Lyman, is a structured cooperative learning strategy comprising three sequential phases: independent cognitive processing (Think), dyadic peer discussion (Pair), and whole-class discourse (Share) (Lyman et al., 2023; Mundelsee & Jurkowski, 2021). Empirical syntheses consistently link TPS to gains in student participation, higher-order thinking, and academic achievement across subject areas (Cooper et al., 2021; Li & Tu, 2024). Crucially, the mandatory 'wait time' embedded in the Think phase fosters metacognitive awareness and levels the participation field for slower processors (Deore & Arora, 2022; Hasanah et al., 2025).

Differentiated Instruction (DI), systematized by Tomlinson, posits that effective teaching dynamically adjusts content, process, and product dimensions to align with students' readiness, interests, and learning profiles (Situmeang et al., 2023; Tupiño et al., 2023). Rather than prescribing individualized programs for each learner, DI operationalizes tiered tasks, scaffolded support, and flexible grouping to provide equitable access to the curriculum (Goyibova et al., 2025; Hu, 2024). The theoretical

basis for DI is grounded in Vygotsky's zone of proximal development: targeted scaffolding enables learners to accomplish tasks slightly beyond their independent capability, thereby accelerating cognitive growth (Nardo, 2021; Rigopouli et al., 2025).

Despite independent evidence supporting both approaches, their systematic integration within the context of Indonesian elementary PPKn instruction remains underexplored. Existing TPS research often fails to account for within-class learning heterogeneity (Atmojo et al., 2023), while DI studies in Indonesian primary education seldom embed cooperative learning structures (Kristiyuana et al., 2025). The present study addresses this gap by proposing and evaluating a synthesised TPS-DI model in which the instructional content, collaborative scaffolding, and presentation products at each TPS phase are differentiated according to student learning profiles.

The novelty of this research rests on three dimensions: (1) methodological integration — the operationalisation of DI principles across all three TPS phases rather than as a parallel or supplementary strategy; (2) instrument specification — the development of tiered Student Worksheets (Lembar Kerja Peserta Didik, LKPD) calibrated to diverse readiness levels for Civics content; and (3) contextual applicability — the adaptation of both models to the socio-cultural characteristics of SDN 1 Sabaru, providing a replicable template for similar institutional contexts.

The overarching aim of this Classroom Action Research (CAR) is to improve PPKn learning outcomes among fifth-grade students through the application of the TPS-DI model, with two specific objectives: (a) to document quantitative changes in classical mastery rates across intervention cycles, and (b) to examine qualitative improvements in teacher pedagogical quality and student participatory engagement.

2. METHOD

This study employed a Classroom Action Research (CAR) methodology, conducted collaboratively between the lead researcher and the classroom teacher. The CAR design follows the Kemmis et al. (2014) cyclical model, comprising four iterative stages per cycle: (1) planning, (2) action implementation, (3) observation, and (4) reflection. The research proceeded across two complete cycles, with findings from each cycle informing subsequent planning and action refinement. CAR was selected because it enables systematic, practitioner-driven inquiry into classroom problems within authentic educational contexts, with the explicit goal of generating actionable improvement.

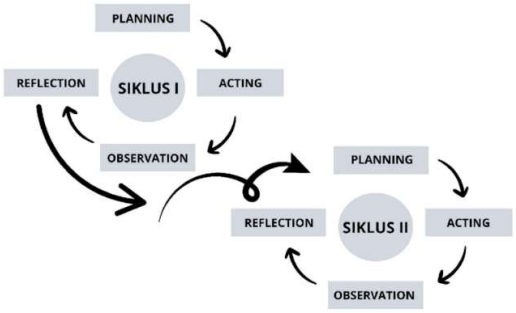

Figure 1. Classroom Action Research Design

The study was conducted at Elementary School 1 Sabaru, a state elementary school located in South Sulawesi Province, Indonesia, during the 2025/2026 academic year. Participants comprised all 30 fifth-grade students enrolled in the class: 17 male and 13 female students, aged 10–11 years. The class was characterised by heterogeneous cognitive ability levels and diverse learning style preferences (visual, auditory, kinesthetic), as determined through initial diagnostic assessment. Convenience sampling was employed, given that the CAR design requires whole-class participation. Ethical clearance was obtained from the institutional authority, and informed consent was secured from parents and school administration prior to data collection.

The TPS-DI intervention was implemented across six instructional meetings (three per cycle), each lasting 2 × 35 minutes. Lesson Implementation Plans (*Rencana Pelaksanaan Pembelajaran*, RPP) were co-developed by the researcher and classroom teacher, incorporating the Merdeka Curriculum framework and the Pancasila Student Profile (*Profil Pelajar Pancasila*) competencies. Content topics progressed from Principles 1–2 (Cycle I, Meetings 1–2) through Principles 3–4 (Cycle I, Meeting 3; Cycle II, Meeting 4) to Principle 5 (Cycle II, Meetings 5–6), using contextualised case studies.

Differentiation was embedded within each TPS phase as follows. In the **Think** phase, students received tiered LKPD calibrated to three readiness levels: foundational (guiding vocabulary and visual prompts), developing (semi-structured analysis frames), and advanced (open-ended critical evaluations). This operationalised *content and process differentiation* consists of Tomlinson (2014). In the **Pair** phase, dyads were formed heterogeneously to facilitate peer tutoring (Vygotsky, 1978; Topping, 2005); the teacher provided differentiated scaffolding tailored to each pair's readiness. In the **Share** phase, *product differentiation* was enacted: students could present their findings as written concept maps, oral presentations, or illustrated narratives, consistent with their interests and strengths (Gregory & Chapman, 2012). Throughout both cycles, the teacher received reflective coaching between meetings to address identified instructional gaps.

Three validated data collection instruments were employed. **(1) Cycle Tests:** Written cognitive assessments administered at the end of each cycle (pre-action baseline, post-Cycle I, post-Cycle II), comprising multiple-choice and short-answer items aligned with PPKn competency indicators. **(2) Teacher Activity Observation Sheets:** Structured rubrics scoring 36 observable teacher behaviours across the TPS-DI syntax, rated per meeting. **(3) Student Activity Observation Sheets:** Structured rubrics scoring 36 observable student participation and engagement behaviours, rated per meeting. Both observation instruments were validated by expert review for content validity.

A mixed-methods descriptive approach was adopted. Quantitative data from cycle tests were analysed using the classical completion formula: $P = (\Sigma n / N) \times 100\%$, where P represents the percentage of students meeting the KKM (≥ 70), n is the number of completing students, and N is the total number of students. Observation data were expressed as percentage scores (observed score/maximum score × 100%) and classified using a five-level qualification scale: Very Low (<40%), Low (40–59%), Moderate (60–

74%), High (75–89%), and Very High (≥90%). Qualitative data from reflective discussions and observational field notes were analysed thematically (Braun & Clarke, 2006) to identify patterns of pedagogical change, student behavioural shifts, and persistent barriers.

The action was deemed successful if two criteria were simultaneously met at the end of Cycle II: (a) at least 85% of students achieved the KKM (classical completion ≥ 85%), and (b) both teacher and student activity scores reached ≥ 75% (High or Very High qualification). These thresholds were established prior to the intervention in consultation with the school and are consistent with national classroom action research benchmarks

3. RESULTS AND DISCUSSION

Results

Baseline Assessment

Pre-action diagnostic testing revealed a markedly low PPKn achievement profile. Of 30 students, only 7 (23.3%) attained the KKM threshold of 70. The mean score of completing students was 74.00, while non-completing students averaged 65.20. The majority (76.7%) were classified in the Poor category (score < 70), indicating pervasive conceptual gaps in Civics content and confirming the need for targeted instructional intervention (Table 1).

Table 1. Pre-Action Baseline Assessment Results (n = 30)

Category	Score Range	Frequency (n)	Percentage (%)
Excellent	90–100	0	0.0
Good	80–89	2	6.7
Fair	70–79	5	16.7
Poor	< 70	23	76.7
Total	—	30	100.0

Teacher and Student Activity Observations

Structured observations across both cycles documented consistent improvement in instructional quality and student engagement. Table 2 summarises the teacher and student activity scores at the observational meetings in Cycles I and II.

Table 2. Teacher and Student Activity Observation Results by Cycle

Indicator	Cycle I Score (/36)	Cycle I (%)	Cycle II Score (/36)	Cycle II (%)
Teacher Activity	20	56%	33	92%
Qualification	Low	—	Very High	—
Student Activity	12	33%	30	83%
Qualification	Very Low	—	Very High	—

Teacher activity scores improved from 56% (Low) in Cycle I to 92% (Very High) in Cycle II, representing a 36 percentage-point gain. Student activity scores rose from 33% (Very Low) in Cycle I to 83% (Very High) in Cycle II, a 50 percentage-point improvement. These gains indicate progressive pedagogical refinement and increasing student ownership of the learning process across cycles.

Cycle I Outcomes

The Cycle I intervention (three meetings covering Pancasila Principles 1–5 through tiered LKPD, heterogeneous paired discussion, and differentiated product presentation) generated notable but insufficient learning gains. Post-Cycle I assessment revealed that 20 of 30 students (66.7%) attained the KKM, with 10 students (33.3%) remaining below threshold (Table 3). The 66.7% completion rate represented a 43.4 percentage-point increase from baseline (23.3%), reflecting the initial potency of the TPS-DI intervention. However, this rate fell short of the 85% success criterion, necessitating a second cycle.

Reflective analysis identified three principal barriers in Cycle I: (a) insufficient student self-confidence during the Share phase, particularly among low-readiness learners; (b) residual teacher-directed guidance patterns during the Pair phase; and (c) suboptimal time management leading to truncated presentation opportunities. These findings informed targeted refinements for Cycle II.

Cycle II Outcomes

Cycle II was characterised by strategic enhancements: more contextually grounded case studies on Principles 3, 4, and 5; the introduction of deliberative simulation activities (Principle 4 meeting); more specific discussion assessment rubrics; and intensified scaffolding for low-readiness learners during the Think and Pair phases. Post-Cycle II assessment results are presented in Table 3.

Table 3. Comparative Learning Outcome Results Across Measurement Points (n = 30)

Category	Baseline	Post-Cycle I	Post-Cycle II	Change (Baseline→Cycle II)
Excellent (90–100)	0 (0%)	0 (0%)	0 (0%)	—
Good (80–89)	2 (6.7%)	8 (26.7%)	23 (76.7%)	+21 students
Fair (70–79)	5 (16.7%)	12 (40.0%)	4 (13.3%)	—
Poor (< 70)	23 (76.7%)	10 (33.3%)	3 (10.0%)	−20 students
Classical Completion	23.3%	66.7%	90.0%	+66.7 pp

Post-Cycle II results demonstrated that 27 of 30 students (90.0%) achieved KKM, exceeding the 85% success benchmark by 5 percentage points. The proportion of students classified as Good improved from 6.7% at baseline to 76.7% post-Cycle II, while the proportion in the Poor category declined from 76.7% to 10.0%. The progressive trajectory—23.3% → 66.7% → 90.0%—confirms a consistent, statistically meaningful improvement in learning outcomes attributable to the TPS-DI intervention. Given the attainment of all success criteria, the research cycle was concluded.

Discussion

Mechanisms Underpinning Learning Outcome Improvement

The 66.7 percentage-point improvement in classical mastery from baseline to Cycle II provides robust evidence that the TPS-DI model constitutes an effective pedagogical intervention for PPKn learning in heterogeneous elementary classrooms. This finding

aligns with and extends previous research demonstrating the efficacy of both TPS and DI independently (Cahyani et al., 2025), while contributing novel evidence for their synthesised application.

The theoretical architecture of the TPS-DI model rests on three complementary pillars. First, the metacognitive scaffold embedded in the Think phase—operationalised through tiered wait time and differentiated LKPD—enabled learners across readiness levels to activate and elaborate prior knowledge before engaging with peers. The provision of content-differentiated prompts ensured that this individual reflection phase was cognitively appropriate for each learner, rather than producing cognitive overload for lower-readiness students or insufficient challenge for higher-readiness peers (Dack & Ann Tomlinson, 2025).

Second, the peer mediation mechanism within the Pair phase capitalised on Vygotskian proximal development dynamics (Ness, 2023). Heterogeneous dyad formation created asymmetric expertise pairings in which higher-readiness students served as more knowledgeable others, providing explanations in contextually accessible language. The differentiated scaffolding supplied by the teacher during this phase ensured that peer interaction remained productive and equitable, preventing the cognitive free riding observed in undifferentiated cooperative models (Munshi et al., 2023). The Cycle I find that dominance by high-ability students remained a barrier until teacher support was intensified in Cycle II corroborates the necessity of structured scaffolding within cooperative learning (Slavin, 2016; Yang, 2023).

Third, the affective empowerment generated through product-differentiated presentation in the Share phase addressed a critical inhibitor of participation: presentation anxiety among low-confidence learners. By allowing students to choose the modality through which they shared their understanding—verbal presentation, written concept map, or illustrated narrative, the model reduced performance pressure and enabled each learner to demonstrate competence through their strength rather than their weakness (Schneid et al., 2025; Unger & Lecher, 2024). The increase in student activity scores from 33% (very low) to 83% (very high) between cycles reflects precisely this pattern: the more the Share phase accommodated individual expression styles, the more broadly and deeply engaged students.

Role of Differentiated Planning and Instructional Materials

A critical contributor to the model's effectiveness was the rigorous pre-implementation planning phase in which researchers and the classroom teacher co-developed LKPD, media, and evaluation instruments grounded in initial diagnostic profiling. This process embodies what Tomlinson terms 'proactive differentiation'—instructional design that anticipates learner variation rather than reacting to it (Pozas et al., 2023). The contextualisation of case studies around the application of Pancasila principles in students lived experiences (school collaboration for Principle 3, deliberative decision-making for Principle 4, equitable task distribution for Principle 5) amplified content relevance and reduced the abstraction that has historically made PPKn inaccessible for many learners.

The substantial improvement in teacher activity scores (56% to 92%) from Cycle I to Cycle II reflects the iterative professional learning embedded within the CAR framework. Reflective debriefing between cycles enabled the classroom teacher to diagnose and address instructional shortfalls, particularly excessive directiveness in the Pair phase and inconsistent time management—that limited the quality of student engagement in Cycle I. This finding underscores the inseparability of pedagogical improvement from learning outcome improvement: teacher-level transformation is a necessary precondition for student-level transformation (Boeve-de Pauw et al., 2022; Kim, 2026).

Alignment with Vygotskian Social Constructivism

The theoretical coherence of the TPS-DI model with Vygotsky's social constructivism is evident at multiple levels (Tasos, 2024). The sequencing of independent thought → dyadic social construction → public discourse mirrors the developmental progression from private to social speech that Vygotsky described as central to the internalisation of higher cognitive functions. Differentiated scaffolding within each phase ensures that the social interactions occurring in PPKn classrooms are not merely procedural but generative: each learner is engaged at a level that stretches their current understanding without inducing the paralysis of excessive difficulty (Ogheneakoke et al., 2024). The progressive improvement of learning outcomes across cycles demonstrates that this scaffolded social construction was cumulative rather than episodic.

Implications for Inclusive Civic Education

Beyond its quantitative outcomes, the TPS-DI model produced qualitative transformation in the classroom climate. The inclusive ethos generated—wherein student differences were not sources of disadvantage but of productive complementarity—embodied the civic values that PPKn itself aims to cultivate. Students who negotiated differentiated perspectives during the Share phase were not only learning about the democratic principles of Pancasila; they were practising them (Anjani, 2026; Sari et al., 2025). This experiential alignment between pedagogical methods and curricular content constitutes a distinct feature of the TPS-DI model and a compelling argument for its adoption within the Merdeka Curriculum framework.

The study's findings carry implications for teachers, curriculum developers, and school administrators. For teachers, the TPS-DI model offers a structured and theoretically grounded framework for managing heterogeneous classrooms without requiring concurrent individualized instruction. For curriculum developers, the results support the integration of differentiation principles into Merdeka Curriculum implementation guidelines, particularly for social studies subjects where value formation and critical thinking are paramount. For school administrators, the study highlights the value of structured instructional coaching embedded within CAR as a form of embedded professional development.

Limitations and Future Research

Several limitations merit acknowledgement. First, the single-school, single-class design limits the generalisability of findings; the sociocultural specificity of Elementary School 1 Sabaru may constrain direct replication in other institutional contexts. Second, the CAR design precludes random assignment and experimental control, making causal attribution to the TPS-DI model reliant on the logical force of the cyclical improvement trajectory rather than on statistical causal inference. Third, outcome measurement was restricted to short-term cognitive gains and observational proxies for participation; longitudinal assessment of knowledge retention, dispositional change, and the transfer of collaborative skills to other subjects was beyond the scope of this study. Fourth, the absence of inter-rater reliability statistics for observation instruments represents a methodological limitation that future studies should address.

Future research should address these limitations through: (a) quasi-experimental designs comparing TPS-DI with conventional or TPS-only instruction across multiple schools; (b) longitudinal tracking of learning gains and civic disposition development; (c) adaptation and evaluation of the model in other subject areas and grade levels; and (d) the development of validated, standardised observation instruments with established psychometric properties for use in differentiated cooperative learning research. Systematic exploration of the model's effectiveness for students with special educational needs would also represent a valuable extension of the present findings.

4. CONCLUSION

This Classroom Action Research provides compelling evidence that the integration of Think Pair Share cooperative learning with Differentiated Instruction constitutes an effective and transformative pedagogical intervention for Civic or PPKn in elementary education. Across two intervention cycles, classical mastery rates improved from 23.3% at baseline to 66.7% post-Cycle I and 90.0% post-Cycle II, surpassing the established 85% success criterion. Concomitant improvements in teacher activity (56% → 92%) and student activity (33% → 83%) confirm that the quantitative learning gains were accompanied by fundamental qualitative improvements in the instructional environment.

The TPS-DI model's effectiveness derives from its principled integration of metacognitive scaffolding (Think), Vygotskian peer-mediated learning (Pair), and affective empowerment through product differentiation (Share)—all calibrated to the heterogeneous learning profiles of the student population. In enacting these mechanisms, the model did not merely improve test scores; it instantiated the democratic and collaborative values that constitute the core aspirations of PPKn itself. These findings support the adoption of the TPS-DI model as an innovative, inclusive, and pedagogically rigorous strategy within the Merdeka Curriculum framework and offer a replicable template for elementary teachers navigating diverse classrooms across the Indonesian educational landscape.

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