Educare :
Jurnal Penelitian Pendidikan dan Pembelajaran
2026, 6(2), 96-104
https://doi.org/10.56393/educare.v6i2.4546

Implementation of the Jigsaw Cooperative Learning Model to Enhance Students' Character of Responsibility in Pancasila Education

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Article History

Received: 12 June 2026;
Revised : 16 September 2026;
Accepted: 21 November 2026.

Keywords

Jigsaw Learning Model;
Character of Responsibility;
Pancasila Education;
Classroom Action Research;
Pancasila Student Profile.

Abstract

This classroom action research aims to enhance the character of responsibility among Grade X students at SMAN 25 Bandung through the implementation of the Jigsaw cooperative learning model on the topic of *Indonesia's Role in International Relations*. The study employed the Kemmis and McTaggart Classroom Action Research (CAR) model, consisting of four iterative stages: planning, acting, observing, and reflecting, conducted across two cycles. Data were collected using observation sheets, responsibility character questionnaires, field notes, and documentation. Data analysis was performed using both quantitative and qualitative descriptive methods by comparing the attainment of responsibility indicators across each cycle. The findings revealed a substantial improvement in students' character of responsibility. In Cycle I, the distribution of students achieving the *Very Good* category remained uneven; however, following the refined implementation of the Jigsaw learning model in Cycle II, this figure increased significantly. Consequently, the Jigsaw model serves as an effective pedagogical alternative to strengthen character education while simultaneously supporting the realization of the Pancasila Student Profile within Pancasila Education.

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How to Cite : Meiza, S., Lestari, W., Suhendar, T. M. R., Jatnika, S. N., Nurlaela, T., & Cahyono, C. (2026). Implementation of the Jigsaw Cooperative Learning Model to Enhance Students' Character of Responsibility in Pancasila Education. *Educare : Jurnal Penelitian Pendidikan Dan Pembelajaran*, *6*(2), 96–104. https://doi.org/10.56393/educare.v6i2.4546

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Introduction

Education is oriented not merely toward the attainment of cognitive competencies, but also toward the cultivation of students' character, which serves as the foundational pillar of communal, national, and state life (Fitri, 2020; Lickona, 2019). One of the vital character traits that must be systematically nurtured within the instructional process is responsibility. The character of responsibility reflects a student's capacity to execute tasks, fulfill obligations, and account for their actions both individually and collectively (Lickona, 2019; Pasani et al., 2018). Within the context of Pancasila Education, reinforcing the character of responsibility is imperative, as it aligns directly with curricular objectives that emphasize shaping active, democratic, and principled citizens (Kemendikbudristek, 2022a; Yusuf & Lestari, 2022). Moreover, international educational scholarship underscores that structured civic pedagogy and rigorous academic standards play a critical role in fostering civic knowledge and active social engagement among adolescents (An et al., 2024; Gómez & Suárez, 2023). Nevertheless, empirical realities in the classroom indicate that many students still exhibit a lack of diligence in learning, low participation in group discussions, and suboptimal timeliness and independence in completing academic assignments (Susanto & Prasetyo, 2023).

Preliminary classroom observations conducted in Grade X at SMAN 25 Bandung identified several critical challenges regarding students' character of responsibility. A considerable number of students demonstrated passive tendencies during lessons, engaged minimally in collaborative discussions, and relied heavily on peers perceived as more academically capable. This condition adversely affected the quality of classroom interaction and hindered the optimal achievement of Pancasila Education learning outcomes, particularly in the unit on *Indonesia's Role in International Relations* (Kemendikbudristek, 2022b, 2022c). This topic requires students not only to master conceptual knowledge cognitively, but also to develop collaborative skills, effective communication, and accountability for assigned roles within learning teams (Kemendikbudristek, 2022b; Gultom, 2025).

One instructional approach widely recognized for its capacity to foster student responsibility is the Jigsaw cooperative learning model (Isjoni, 2020; Rusman, 2022). Originally developed by Aronson (1978), the Jigsaw model positions each student as an "expert" on a specific subtopic, requiring them to master the material and subsequently teach it to members of their home group. This pedagogical structure establishes positive interdependence among group members while compelling individual accountability for mastering assigned content (Slavin, 2015; Suprijono, 2022). Through this mechanism, students do not merely acquire conceptual understanding; they also learn to fulfill peer-teaching roles, communicate effectively, and assist teammates in achieving shared learning goals (Trianto, 2021; Suryani & Agung, 2021). Previous empirical studies demonstrate that cooperative learning, and specifically the Jigsaw model, effectively enhances learning engagement, social skills, academic achievement, and the character of responsibility across diverse educational settings (Asrial et al., 2023; Budiarti & Mulyani, 2022; Dewi & Hamdu, 2021; Rahman & Suryadi, 2022; Setiawan & Nugroho, 2023; Utami & Haryanto, 2022). Furthermore, structured peer-assisted learning and cognitive flexibility in processing varied informational inputs have been shown to strengthen students' independent mastery and developmental outcomes (Edwards et al., 2022).

Although numerous studies have examined the efficacy of the Jigsaw model in improving academic achievement and general social skills (Marlina & Fadli, 2021; Pratiwi & Rahmawati,

2023), investigations that specifically link Jigsaw implementation to the cultivation of the character of responsibility within the senior high school Pancasila Education unit on *Indonesia's Role in International Relations* remain relatively scarce (Hadiyanti & Wahyuni, 2022; Nugraha & Kusuma, 2022). Therefore, the novelty of this study lies in its targeted focus on strengthening the character of responsibility through the Jigsaw cooperative model in Pancasila Education under the *Merdeka* Curriculum framework (Hidayat & Nurhayati, 2023; Mulyasa, 2022). Additionally, this study is designed as Classroom Action Research (CAR), enabling teachers to execute continuous pedagogical improvements based on iterative reflection at the end of each cycle (Widodo & Kurniasih, 2023). Consequently, this research is expected to offer practical contributions for Pancasila Education practitioners in designing instructional strategies that simultaneously deepen conceptual mastery and fortify student character (Wajdi et al., 2024).

Based on this background, the research question formulated for this study is: *How can the implementation of the Jigsaw cooperative learning model enhance the character of responsibility among Grade X students at SMAN 25 Bandung in the unit on Indonesia's Role in International Relations?* Accordingly, the objective of this study is to improve students' character of responsibility through the application of the Jigsaw cooperative learning model in Pancasila Education. The findings are expected to serve as a viable pedagogical solution for elevating instructional quality oriented toward character building in alignment with the Pancasila Student Profile (Kemendikbudristek, 2022a; Wajdi et al., 2024).

Method

This study employed a Classroom Action Research (CAR) design utilizing the Kemmis and McTaggart spiral model, which comprises four recurring phases: planning, acting, observing, and reflecting across two instructional cycles (Widodo & Kurniasih, 2023). The research was conducted at SMAN 25 Bandung, involving 42 Grade X students enrolled in the Pancasila Education course covering the topic *Indonesia's Role in International Relations* (Kemendikbudristek, 2022c). The pedagogical intervention consisted of implementing the Jigsaw cooperative learning model, wherein students were organized into home groups and expert groups to cultivate both individual accountability and collective responsibility during the learning process (Aronson, 1978; Trianto, 2021). Research data were gathered through structured observation sheets of responsibility character, student self-report questionnaires, photographic documentation, and researcher field notes recorded throughout classroom sessions. Drawing upon validated character assessment frameworks (Pasani et al., 2018), the observed indicators of responsibility comprised: (1) diligence and perseverance in learning, (2) timely completion of assignments, (3) attendance and learning readiness, (4) active contribution and accountability as a group expert, and (5) cooperative attitudes and mutual assistance. Data were analyzed using both quantitative and qualitative descriptive techniques. Quantitative analysis involved calculating the percentage of students attaining each responsibility indicator per cycle and comparing cross-cycle progression, whereas qualitative analysis synthesized field notes and observational reflections. The intervention was deemed successful if at least 80% of the students achieved the *Good* or *Very Good* categories across the established responsibility indicators. Analytical findings from Cycle I served as the reflective foundation for refining instructional actions in Cycle II to maximize student character development.

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Results and Discussion

Results

The classroom action research was executed over two cycles by applying the Jigsaw cooperative learning model to the topic of *Indonesia's Role in International Relations* in Grade X at SMAN 25 Bandung. Data collection focused on the five predetermined indicators of students' character of responsibility: (1) diligence and perseverance in learning, (2) timely completion of assignments, (3) attendance and learning readiness, (4) active contribution and accountability as a team expert, and (5) cooperative behavior and peer support (Pasani et al., 2018).

Table 1. Students' Character of Responsibility Results in Cycle I

Category	Number of Students	Percentage (%)
Very Good	14	33.33%
Good	25	59.52%
Fair	3	7.14%
Poor	0	0.00%
Total	42	100.00%

Based on observational data in Cycle I (Table 1), the initial implementation of the Jigsaw cooperative learning model began to yield positive effects on students' character of responsibility. Out of the 42 participating students, 14 students (33.33%) attained the *Very Good* category, 25 students (59.52%) achieved the *Good* category, and 3 students (7.14%) remained in the *Fair* category, with no students in the *Poor* category. While 92.85% of students combined reached the *Good* and *Very Good* thresholds, the proportion of students demonstrating *Very Good* responsibility remained relatively modest, indicating that several learners had not yet fully internalized their roles as group members and subject experts.



Figure 1. Implementation of Learning Activities in Cycle I

During Cycle I, students began demonstrating greater seriousness in following lessons and participating in peer discussions. However, qualitative field notes indicated that several students lacked self-confidence when explaining subtopics to their home groups and were hesitant to respond critically to peers' arguments. These behavioral gaps formed the basis for pedagogical reflection and targeted refinements in Cycle II.

Table 2. *Students' Character of Responsibility Results in Cycle II*

Category	Number of Students	Percentage (%)
Very Good	24	57.14%
Good	17	40.48%
Fair	1	2.38%
Poor	0	0.00%
Total	42	100.00%

Informed by the reflective evaluation of Cycle I, several instructional refinements were introduced in Cycle II, including reinforcing the accountability of expert roles, providing targeted motivational scaffolding, offering more intensive teacher facilitation during expert-group discussions, and increasing systematic monitoring of student engagement (Suryani & Agung, 2021). Following these adjustments, students' character of responsibility exhibited marked improvement compared to Cycle I (Table 2).



Figure 2. Implementation of Learning Activities in Cycle II

Observational data in Cycle II revealed that the number of students achieving the *Very Good* category rose substantially to 24 students (57.14%), while 17 students (40.48%) fell into the *Good* category, and those in the *Fair* category declined to just 1 student (2.38%). Overall, 97.62% of students reached the *Good* or *Very Good* benchmarks, surpassing the predetermined 80% success criterion. This progression confirms that the refined Jigsaw model effectively motivated students to take ownership of their learning tasks, fulfill their responsibilities as peer experts, and engage actively in collaborative group work.

Table 3. *Comparison of Students' Character of Responsibility Between Cycle I and Cycle II*

Category	Cycle I	Cycle II	Change
Very Good	14 Students (33.33%)	24 Students (57.14%)	+10 Students (+23.81%)
Good	25 Students (59.52%)	17 Students (40.48%)	-8 Students (-19.04%)
Fair	3 Students (7.14%)	1 Student (2.38%)	-2 Students (-4.76%)
Poor	0 Students (0.00%)	0 Students (0.00%)	0 Students (0.00%)
Total	42 Students (100.00%)	42 Students (100.00%)	—

As summarized in Table 3, the number of students in the *Very Good* category increased by 10 students, representing a 23.81% gain (from 14 to 24 students), primarily driven by the upward mobility of students previously categorized as *Good* and *Fair*. Conversely, the *Fair* category decreased from 3 students (7.14%) to 1 student (2.38%). These empirical outcomes demonstrate that the Jigsaw cooperative learning model is highly effective in cultivating students' character of responsibility in Pancasila Education at Grade X SMAN 25 Bandung.

Discussion

The findings of this study confirm that the implementation of the Jigsaw cooperative learning model significantly enhances the character of responsibility among Grade X students at SMAN 25 Bandung in the unit on *Indonesia's Role in International Relations*. This improvement is evidenced by the upward shift of students in the *Very Good* category from 33.33% in Cycle I to 57.14% in Cycle II, alongside a reduction in the *Fair* category from 7.14% to 2.38%. These results validate that structured cooperative interventions successfully address student passivity and foster measurable character growth (Asrial et al., 2023; Budiarti & Mulyani, 2022).

The enhancement of students' character of responsibility is intrinsically linked to the structural mechanics of the Jigsaw cooperative learning model, which positions every learner as an indispensable contributor to the collective learning process (Aronson, 1978; Rusman, 2022). Within this framework, each student is entrusted with mastering a distinct subtopic inside an expert group before returning to teach that material to their home group (Suprijono, 2022). This structural design compels learners to approach study tasks with heightened seriousness, as the academic success of the entire group hinges upon each member's individual mastery and instructional delivery (Isjoni, 2020; Slavin, 2015).

Examining the results across specific behavioral indicators reveals a more balanced and comprehensive development in Cycle II than in Cycle I. First, *diligence and perseverance in learning* improved markedly as students recognized the necessity of thoroughly understanding their assigned subtopics prior to peer teaching (Setiawan & Nugroho, 2023). Second, regarding *timely completion of assignments*, students demonstrated stronger self-discipline in completing Student Worksheets (LKPD) and collaborative tasks within stipulated deadlines. Third, *active contribution and accountability as a group expert* exhibited the most pronounced gain, reflected in the growing confidence with which students presented discussion outcomes, explained concepts to teammates, and fielded peer questions (Nugraha & Kusuma, 2022). Fourth, *cooperative attitudes and mutual assistance* flourished, characterized by richer peer-to-peer scaffolding during group deliberations; students shifted from purely individualistic achievement toward genuine concern for their teammates' comprehension (Dewi & Hamdu, 2021; Utami & Haryanto, 2022).

These empirical findings align closely with Slavin's (2015) theoretical framework of cooperative learning, which posits that individual accountability and positive interdependence are the two primary mechanisms driving meaningful student engagement. Through structured transitions between expert and home groups, learners are simultaneously accountable for their own conceptual mastery and responsible for facilitating their peers' learning (Slavin, 2015). Furthermore, the outcomes corroborate Huda's (2021) assertion that the Jigsaw model maximizes active student participation because every team member holds a unique, non-substitutable role. Similarly, the results reinforce prior empirical evidence by Pasani and Basil (2014), Hadiyanti and Wahyuni (2022), and Marlina and Fadli (2021), all of whom established that cooperative learning structures foster the character of responsibility through sustained active involvement and peer accountability.

Within the broader pedagogical context of Pancasila Education, cultivating the character of responsibility through the Jigsaw model carries profound relevance to the national educational mandate of realizing the *Pancasila Student Profile* (*Profil Pelajar Pancasila*) under

the *Merdeka* Curriculum (Hidayat & Nurhayati, 2023; Kemendikbudristek, 2022a; Mulyasa, 2022). As noted by Wajdi et al. (2024) and Yusuf and Lestari (2022), effective civic and character education requires experiential learning environments where democratic values and social obligations are practiced directly rather than merely memorized. By engaging in collaborative peer teaching on Indonesia's diplomatic and international roles, students internalize independence, mutual cooperation (*gotong royong*), and civic accountability, core dimensions required of responsible citizens in both school communities and broader society (An et al., 2024; Gómez & Suárez, 2023; Gultom, 2025).

Conclusion

Based on the findings of this two-cycle Classroom Action Research, it is concluded that the implementation of the Jigsaw cooperative learning model effectively enhances the character of responsibility among Grade X students at SMAN 25 Bandung in the Pancasila Education unit on *Indonesia's Role in International Relations*. This improvement is demonstrated by the substantial increase in students achieving the *Very Good* category, rising from 14 students (33.33%) in Cycle I to 24 students (57.14%) in Cycle II, coupled with a decrease in the *Fair* category from 3 students (7.14%) to 1 student (2.38%). Progress was consistently observed across all five behavioral indicators: diligence in learning, timeliness in task completion, learning readiness, accountability in executing expert roles, and cooperative peer support. Consequently, the Jigsaw cooperative learning model represents an effective, replicable pedagogical strategy for strengthening students' character of responsibility in Pancasila Education while advancing the core objectives of the Pancasila Student Profile.

Acknowledgments

The authors extend their sincere gratitude to Universitas Pasundan as the organizing institution of the Teacher Professional Education Program (PPG), the Principal of SMAN 25 Bandung, the mentor teacher (*guru pamong*), the supervising lecturer, and the Grade X students for their invaluable support, guidance, and active participation throughout the execution of this Classroom Action Research.

Authors' Note

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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