



Enhancing Multicultural Awareness in High School Sociology Through Diorama-Based Culturally Responsive Teaching

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ABSTRACT

Purpose - This study aims to analyze the effect of diorama-based Culturally Responsive Teaching (CRT) on the enhancement of high school students' multicultural awareness. It also compares the increase in awareness between students who participated in diorama-based learning and those who used cultural-themed posters.

Methodology - A quasi-experimental non-equivalent control group design was employed involving two intact classes of sociology students (n=76) at SMAN 1 Ciparay. The experimental group received diorama-based CRT integrated with Project-Based Learning, while the control group utilized thematic posters. Data were collected using validated pre-test and post-test questionnaires measuring four indicators of multicultural awareness. The analysis utilized gain scores, the Shapiro-Wilk normality test, and the Mann-Whitney U non-parametric test.

Findings - Descriptively, the experimental group's average score increased from 113 to 117 (average gain = 3.16), whereas the control group's average score increased from 109 to 111 (average gain = 1.68). The Wilcoxon test confirmed a significant internal improvement within the experimental group ($p < 0.001$). Furthermore, the Mann-Whitney U test demonstrated a statistically significant difference in gain scores between the two groups ($p = 0.022$, $r = 0.262$). Commitment to social justice and empathy for other groups exhibited the most prominent improvement.

Contribution - This research enriches the study of CRT implementation in sociology education, offering concrete pedagogical alternatives for pluralistic societies like Indonesia. The findings highlight that structured, project-based diorama activities can positively influence students' multicultural awareness and support experiential learning strategies in the curriculum.

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INTRODUCTION

In a world increasingly connected by human mobility, information flows, and cross-border interactions, schools alone are no longer enough to equip students with academic skills. Education is also required to prepare students to understand differences, respond critically to cross-cultural issues, and interact respectfully in a pluralistic society (Elias & Mansouri, 2023). Within this framework, the OECD (Organization for Economic Co-operation and Development) places global competence as a multidimensional capacity that includes the ability to examine local, global, and intercultural issues, understand and appreciate the perspectives of others, interact openly and effectively with people from different cultural backgrounds, and act for common prosperity and sustainable development (Ortiz-Marcos et al., 2020). Thus, awareness of diversity is an important part of the quality of learning in the 21st century.

This urgency is even more evident when it is associated with a global social reality full of intercultural encounters but also vulnerable to stereotypes, prejudices, discrimination, and conflict. In the PISA 2018 Global Competence Framework, the OECD emphasizes that learning about culture and intercultural relations can help students understand their identity, recognize similarities and differences between groups, and appreciate the importance of protecting diversity. On the contrary, failure to build cross-cultural understanding can give birth to miscommunication, misunderstandings, and even social conflicts (OECD, 2018). The findings of PISA (Program for International Student Assessment) also show that although 87% of students in OECD countries are in schools whose curricula include respect for cultural diversity, only 50% are in schools with curricula that teach how to communicate with people from different cultures (*PISA 2018 Results (Volume VI)*, 2020). In addition, 76% of students reported learning about different cultures at school, 64% learned to resolve conflicts with others, and 62% learned that people from different cultures can have different perspectives on an issue (*PISA 2018 Results (Volume VI)*, 2020). These data show that recognition of diversity in the curriculum has not always been followed by learning experiences that truly develop understanding of perspectives and cross-cultural interactions.

The global context is highly relevant to Indonesia, a country with a highly pluralistic social and cultural landscape. Badan Pusat Statistik (Statistics Indonesia) through the publication of the Tribal Profile and Regional Language Diversity Results of the 2020 Population Census Long Form emphasized that ethnic diversity and regional languages are important characteristics of Indonesian society, which is reflected in the socio-demographic profiles of various tribes and the use of regional languages in family and community environments in various regions (Hasil Long Form Sensus Penduduk 2020, 2020). At the level of education policy, this orientation aligns with the Pancasila Student Profile, particularly the global diversity dimension, which emphasizes understanding and appreciating culture, communicating across cultures, and reflecting on the experience of diversity responsibly (Nur Wijayanti & Muthali'in, 2023). This shows that strengthening multicultural awareness in Indonesian schools is not just a normative demand, but a real social and pedagogical need.

However, school learning practices still often treat diversity as a matter of normative knowledge. Multicultural values are often taught through verbal explanations, memorization of concepts, or informative media, so that students have not fully gained a concrete, reflective, and contextual learning experience (Humphreys & Hirschel, 2025). In sociology learning, this weakness becomes important because sociology material is directly related to identity, social interaction, cultural differences, conflicts, integration, and pluralistic society life (Boualam & Ennam, 2024). Therefore, sociology learning requires an approach that not only conveys concepts but also connects the material to students' sociocultural reality in a more meaningful way.

One relevant approach to addressing these needs is Culturally Responsive Teaching (CRT), which treats students' cultural backgrounds as a learning resource and a foundation for building inclusive, contextually relevant learning (Chang & Viesca, 2022). However, in classroom dynamics research and practice, CRT is more often discussed at the level of classroom interaction strategies, discussions, or reflections (Ashrafova, 2024). Meanwhile, the use of concrete visual media to operationalize the principles of CRT in sociology

instruction remains relatively limited.

In this context, while previous studies have attempted to integrate 3D visual media into learning, their application is often limited to single models or mock-ups that isolate objects from their natural surroundings (Muñoz et al., 2019). Within the framework of Culturally Responsive Teaching (CRT), such isolated or fragmented representations are insufficient for bridging students' cultural identities with academic content, as culture is inherently an interconnected ecosystem of meanings rather than a collection of detached artifacts (Abdalla & Moussa, 2024). Therefore, this study specifically selects Dioramas over other 3D media. Dioramas offer a distinctive pedagogical advantage because they do not merely display a static three-dimensional physical form; rather, they present a cohesive visual narrative and an authentic environmental context that captures the relational dynamics of a culture (Aslan Efe et al., 2022). The structural flexibility of dioramas allows for the holistic reconstruction of students' local cultural settings, be it their socio-historical environments, lived traditions, or daily ecosystems, thereby fostering a deeper, more empathetic, and personal connection to the curriculum (Khadijah et al., 2025).

Furthermore, the tactile construction process of a diorama uniquely accommodates the use of readily available, raw, and culturally significant local materials. By incorporating these materials, the learning process effectively validates the 'funds of knowledge' embedded in students' homes and communities, making this medium exceptionally powerful in operationalizing the core principles of CRT, which center meaningful education on students' lived experiences.

Based on this description, there is still a need for empirical research to test whether implementing diorama-based Culturally Responsive Teaching (CRT) can increase students' multicultural awareness in sociology learning. Therefore, this study aims to analyze the effect of diorama-based Culturally Responsive Teaching (CRT) on the increase of students' multicultural awareness, as well as to compare the increase in multicultural awareness between students who participated in diorama-based learning in the experimental group and students who participated in cultural thematic poster learning in the control group. This research is expected to enrich the study of CRT implementation in the context of sociology learning in Indonesia and to offer more concrete pedagogical alternatives to address the demands of education in a pluralistic society.

METHODOLOGY

Research Design

This study used a quasi-experimental, non-equivalent control-group design to test the effects of interventions on students' multicultural awareness. This design was chosen because the research was conducted in a naturally formed classroom context, as determined by school policy, and randomization of subjects was therefore not possible (Fraenkel et al., 2018). The experimental and control groups came from two classes that were comparable in terms of student numbers and gender proportions. Although it does not use randomization, this design remains relevant in educational research because it allows testing interventions in real-world learning settings without disrupting existing school structures (Cohen et al., 2017). To strengthen the validity of the analysis, changes in pre-test and post-test scores were used to assess differences in multicultural awareness enhancement between the two groups. The non-equivalent control group research design framework applied in this study is illustrated in Figure 1.

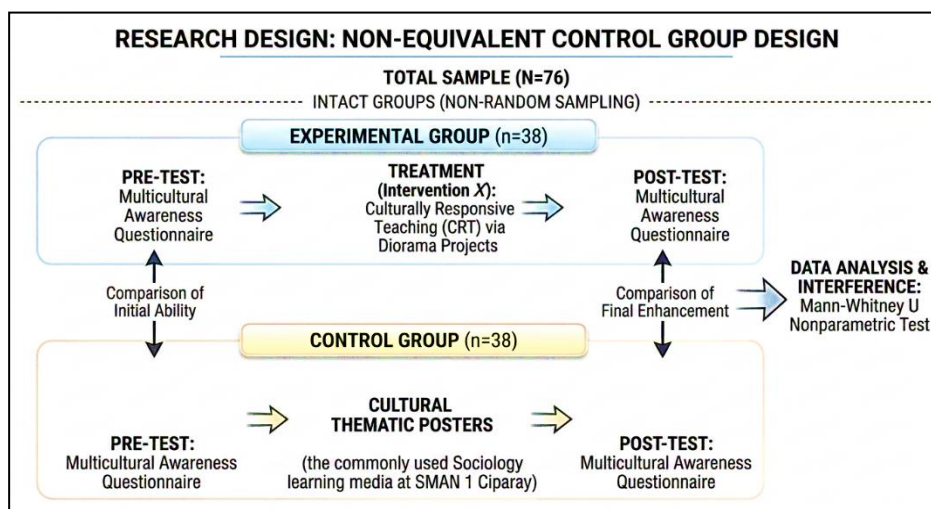


Figure 1. The non-equivalent control group research design framework.

Participant

Participants consisted of two classes of XI IPS SMAN 1 Ciparay, 38 students each. The experimental group used diorama-based learning, while the control group used poster-based learning. Both groups had a balanced gender composition and academic achievement to minimize bias. The selection of samples was based on the available classes at the school (intact group), so there was no individual randomization of subjects. This procedure aligns with the use of quasi-experimental designs in research. The demographics of the research sample of 76 students can be written in the following table:

Table 1. Demographics of the research sample

No	Class	Number of students		Total
		Male	Female	
1	XI-11	20	18	38
2	XI-12	20	18	38

Data Collection

The research data were collected through pre-test and post-test questionnaires to measure students' multicultural awareness before and after treatment. The pre-test is administered before the intervention to gauge students' understanding and attitudes towards multiculturalism, while the post-test is administered after the diorama-based learning to assess changes. The questionnaire instrument used a 4-point Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). It was directed to measure students' attitudes, views, and acceptance of cultural and social diversity. Data from both measurement stages were then analyzed to compare changes in scores between the experimental and control groups.

Procedure

In this study, the experimental group received treatment through diorama-based sociology instruction, while the control group received instruction using cultural-themed posters. The selection of cultural-themed posters as media in the control group was based on the results of a preliminary study with a sociology teacher at SMAN 1 Ciparay, which showed that thematic posters are a medium students usually design in sociology learning. Thus, the control group was not placed in a condition without learning; rather, it continued to engage in learning with the media commonly used in schools.

The intervention was implemented over five meetings using the Project-Based Learning (PBL) model in both groups. The experiment was carried out over 5 meetings, with 2 meetings per week, totaling 180 minutes. The experimental and control groups followed the same learning stages, including problem

orientation, project planning, product development, presentation, and reflection. The main difference between the groups was the learning media that students produced.

In the experimental group, students developed diorama-based projects to represent conflict, cultural diversity, and peaceful resolution in a multicultural society. In the control group, students developed culturally themed posters on the same topic and at the same project stages. Each class is divided into 5 groups of students, each with a different conflict theme. The conflict themes are chosen based on students' exploration results and relate to conflict in the context of societal diversity. During the process, the teacher facilitated group discussion, monitored project progress, guided students when difficulties emerged, and encouraged reflection on empathy, diversity, and social justice. At the end of the intervention, each group presented its project and discussed the meanings of the cultural symbols, the conflict situations, and the proposed solutions represented in their work.

Instrument

The multicultural awareness instruments in this study are organized into four main indicators: Indicator A, recognition of diversity; Indicator B, understanding of intercultural power dynamics; Indicator C, empathy for other groups; and Indicator D, commitment to social justice. The four indicators were adapted from the Multicultural Awareness Scale by Sue et al. (1998) to measure students' understanding, attitudes, empathy, and commitment to sociocultural diversity. The item validity test was carried out using pre-test data, based on corrected item-total correlations, with the criterion $r \geq 0.30$. Items that met the criteria were retained for the calculation of multicultural awareness scores in the pre-test and post-test analyses. In contrast, items that did not meet the criteria were excluded from the final analysis.

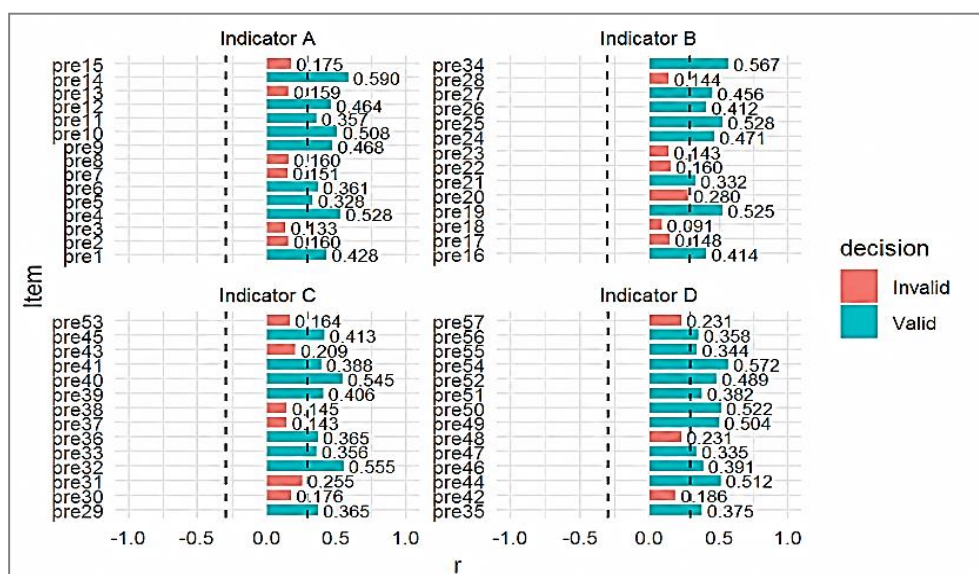


Figure 2. Validity test results of multicultural awareness questionnaire items based on corrected item-total correlation

The validity test results yielded 36 valid items across four indicators, which were retained for the final data analysis. Specifically, these comprised 9 items from Indicator A (max $r = 0.590$), 8 items from Indicator B (max $r = 0.567$), 8 items from Indicator C (max $r = 0.555$), and 11 items from Indicator D (max $r = 0.572$). All invalid items were excluded from the instrument, ensuring that subsequent hypothesis testing used only the robust, valid dataset.

Furthermore, the instrument's reliability was assessed using Cronbach's alpha on items that met the validity criteria. The analysis showed that Cronbach's Alpha was 0.935 in the pre-test and 0.925 in the post-test. Both values are above the minimum limit of 0.70, so the instrument can be declared to have excellent

internal consistency. These findings show that the retained items stably measured the multicultural consciousness construct at two measurement points, namely before and after treatment.

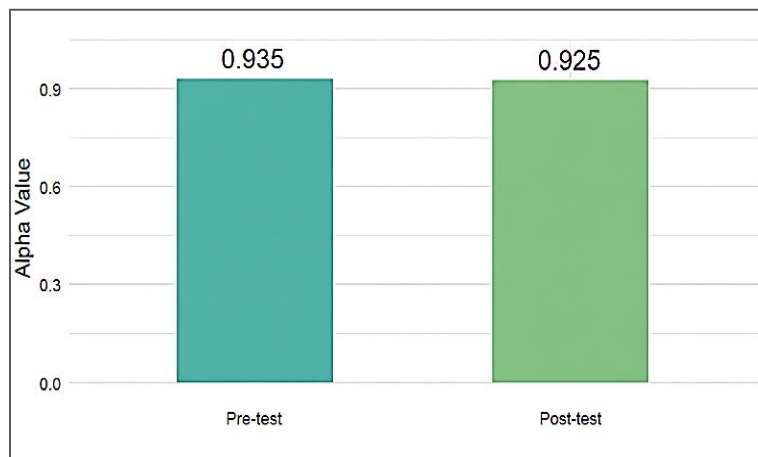


Figure 3. Reliability test results of the multicultural awareness instrument based on Cronbach's Alpha

Data Analysis

The data were analyzed using gain scores to see changes in students' multicultural awareness in both the experimental and control groups. Before hypothesis testing, the Shapiro-Wilk normality test and Levene's test for homogeneity of variances were conducted to determine the appropriate analysis technique. Since the data did not meet the parametric assumptions, a non-parametric Mann-Whitney U test was performed to test the hypothesis. All statistical analyses were performed using RStudio.

FINDINGS

To determine the most appropriate statistical approach for analyzing the data, preliminary tests were conducted to evaluate the underlying assumptions. Initial results from the Shapiro-Wilk test indicated that the gain score data in both groups were not normally distributed, although Levene's Test confirmed that the variances were homogeneous. Therefore, the difference in gain scores between the experiment and control groups was analyzed using the Mann-Whitney U non-parametric test.

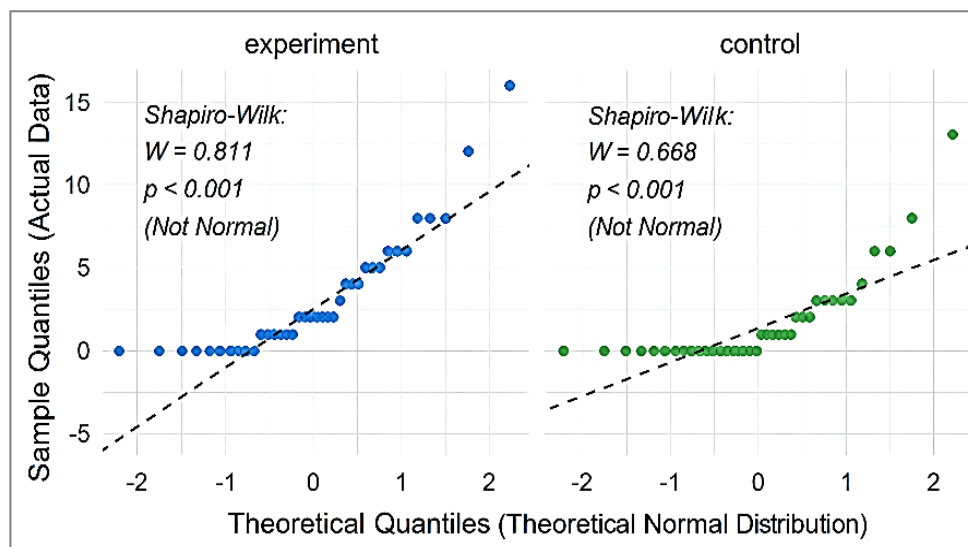


Figure 3. Normality test results of the gain score using the Shapiro-Wilk Q-Q plot

Table 2. Homogeneity test results of the gain score using Levene's Test

Data	Levene Statistic	df	p-value (sig.)	Significance level (α)	Interpretation
Gain Score	1,9278	(1, 74)	0,1692	0,05	Homogeneous

Before presenting the results of the Mann-Whitney U test, descriptive statistics were analyzed to provide a clear picture of the actual changes in students' multicultural awareness scores. Based on Table 3 and Figure 4, the experimental group increased their average scores from 113 in the pre-test to 117 in the post-test, with an average gain of 3.16. Meanwhile, the control group increased from 109 to 111, with an average gain of 1.68. Descriptively, although both groups showed improvement, the score enhancement in the experimental group was visibly greater than in the control group.

Table 3. Descriptive Statistics of Students' Multicultural Awareness

Group	N	Pre-test		Post-test		Mean Gain	SD Gain
		Mean	SD	Mean	SD		
Experimental	38	113	11.8	117	12.4	3.16	3.63
Control	38	109	14.2	111	12.9	1.68	2.73

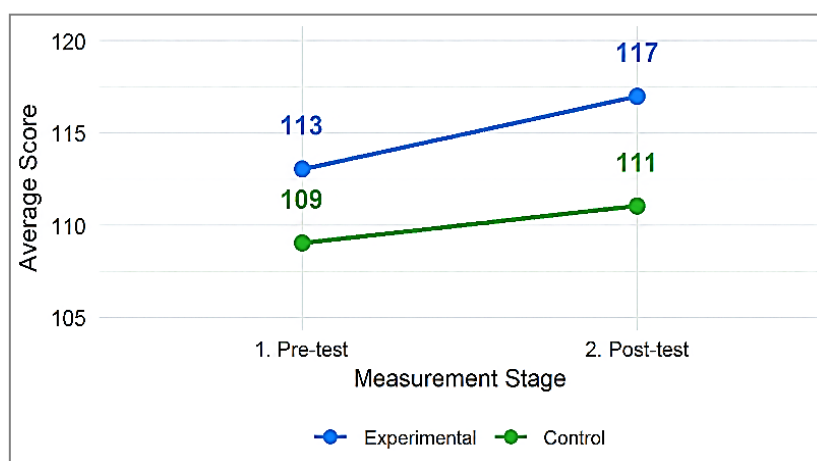


Figure 4. Average multicultural awareness scores of the experimental and control groups across pre-test and post-test stages

Descriptive statistics of the students' multicultural awareness scores are summarized below to illustrate the differences in central tendency and variability between the experimental and control groups across pre-test, post-test, and gain scores.

Table 4. Median and Interquartile Range of Multicultural Awareness Scores

Group	N	Pre-test		Post-test		Gain Median	Gain IQR
		Median	IQR	Median	IQR		
Experimental	38	110	18.8	114	19.0	2.0	4.75
Control	38	114	14.8	114	14.2	0.5	2.75

Table 4 presents the median and interquartile range of multicultural awareness scores in the experimental and control groups. The experimental group showed an increase in median score from 110 in the pre-test to 114 in the post-test, with a median gain of 2.0. In contrast, the control group had the same median score of 114 in both the pre-test and post-test, with a median gain of 0.5. These results indicate that

the experimental group showed a clearer improvement in descriptive measures than the control group. Since the data were not normally distributed, median and IQR were used to provide a more appropriate summary before conducting the Wilcoxon Signed-Rank Test and Mann-Whitney U Test.

Effect of Diorama-Based CRT on Students' Multicultural Awareness

The next analysis compared the pre-test and post-test scores of the experimental group. Since the data is not normally distributed, the test is performed using the Wilcoxon Signed-Rank Test. This test was used to determine whether students' multicultural awareness changed significantly after participating in Sociology instruction using the diorama-based Culturally Responsive Teaching approach.

Table 5. Wilcoxon Signed-Rank Test Results of Pre-test and Post-test Scores in the Experimental Group

Statistical Test	Value	Interpretation
Z-score	4.388	Indicates a significant difference between pre-test and post-test scores in the experimental group.
Effect Size (r)	0.712	Indicates a large effect size.
p-value	< 0.001	The difference between pre-test and post-test scores is statistically significant.

The Wilcoxon Signed-Rank Test was conducted to examine whether students' multicultural awareness scores in the experimental group differed significantly between the pre-test and post-test. The result showed a significant increase after the implementation of diorama-based Culturally Responsive Teaching, with $Z = 4.388$ and $p < 0.001$. The effect size value of $r = 0.712$ indicates a large effect. This finding suggests that diorama-based CRT was associated with a substantial improvement in students' multicultural awareness.

To further understand the impact of the Diorama-based Culturally Responsive Teaching intervention, the following table presents the gain scores, effect sizes, and statistical significance for each multicultural awareness indicator. While the overall Wilcoxon test confirmed a significant improvement in the experimental group's total scores, breaking down the results by indicator allows us to identify which specific dimensions of multicultural awareness were most strongly affected by the intervention.

Table 6. Gain scores, SD, effect size (r), and p-values for each multicultural awareness indicator after Diorama-based teaching.

Indicator	Mean gain	SD	R (effect size)	P-value
A. Recognition of diversity	0.289	0.802	0.309	0.0568
B. Understanding of intercultural power dynamics	0.474	1.179	0.372	0.0220
C. Empathy for other groups	0.684	1.397	0.473	0.00352
D. Commitment to social justice	1.158	1.717	0.593	0.000257

Based on the analysis of gain scores from the pre-test and post-test, it is evident that the Culturally Responsive Teaching using Diorama intervention resulted in varying levels of improvement across different indicators of multicultural awareness. Indicator D, commitment to social justice, showed the largest increase, with a mean gain of 1.158, an effect size (r) of 0.593, and a p-value of 0.000257, indicating a strong, statistically significant effect of the treatment. Indicator C, empathy for other groups, also showed a substantial improvement (mean gain = 0.684, $r = 0.473$, $p = 0.00352$), suggesting that students developed greater empathy toward other groups through the use of Diorama.

Meanwhile, Indicator B, understanding of intercultural power dynamics, demonstrated a moderate increase (mean gain = 0.474, $r = 0.372$, $p = 0.022$), and Indicator A, recognition of diversity, exhibited the lowest gain (mean gain = 0.289, $r = 0.309$, $p = 0.0568$), though it approached statistical significance. These findings indicate that Diorama-based learning is most effective in enhancing social commitment and

empathy, while improvements in diversity recognition and understanding of intercultural power dynamics are more moderate.

Comparison of Multicultural Awareness Improvement Between Groups

The difference in multicultural awareness increase between the experimental and control groups was analyzed using the Mann-Whitney U Test on gain score data. This test is used because the gain score data is not normally distributed, so a non-parametric approach is more appropriate. This analysis compares the increase in scores of students who participate in diorama-based Sociology learning with those of students who participate in learning using cultural thematic posters.

Table 7. Mann-Whitney U Test Results for Gain Score Comparison Between Experimental and Control Groups

Statistical Test	Value	Interpretation
W statistic	935	Indicates a difference in gain scores between groups
p-value	0.02259	Statistically significant at $p < 0.05$
Effect size r	0.262	Small effect size

The results of the Mann-Whitney U Test showed a significant difference in gain scores between the experimental and control groups ($W = 935$, $p = 0.02259$). Because the p-value was less than 0.05, the increase in multicultural awareness in both groups differed statistically. The effect size $r = 0.262$ indicates that the difference falls in the small category. These findings indicate that diorama-based learning yields greater improvement than cultural-themed posters, although the effect size remains relatively limited. Pedagogically, these results suggest that dioramas have the potential to serve as a medium for multicultural learning, especially when used in activities that encourage cultural representation, social reflection, and discussions about diversity.

DISCUSSION

Interpretation of Main Findings

The analysis indicates a statistically significant improvement in multicultural awareness among students in the experimental group compared to the control group, as reflected in higher gain scores. While both groups demonstrated growth, the diorama-based intervention yielded a greater increase, suggesting that engaging with three-dimensional cultural representations may enhance students' understanding of social diversity. The observed effect size was small, indicating that although the difference is statistically meaningful, the impact remains moderate.

This relatively limited overall effect size can be critically evaluated through the lens of Cognitive Load Theory (Sweller, 1994) and Kolb's Experiential Learning Framework (Bergsteiner et al., 2010). The technical complexity inherent in crafting three-dimensional dioramas, such as spatial scaling, material selection, and structural design, likely induced a high extraneous cognitive load on students. Within a highly constrained timeframe of only five sessions, a significant portion of the students' working memory and instructional time was absorbed by the physical and tactile mechanics of construction, rather than the germane cognitive processing required for deep multicultural introspection. Consequently, while experiential learning via hands-on projects stimulates high engagement, the operational overhead of the medium itself can temporarily bottleneck profound conceptual assimilation when compressed into a short intervention period.

Therefore, a closer, indicator-specific examination (Table 6) reveals a highly nuanced pedagogical dynamic that outweighs the modest overall effect size. Diorama-based teaching was exceptionally effective in accelerating students' 'Commitment to social justice' (Indicator D), yielding the largest improvement, the highest mean gain (1.158), and a large effect size ($r = 0.593$, $p < 0.001$). This phenomenon aligns with Gay's (2021) core tenets of Culturally Responsive Teaching, which argue that multicultural education must be

agentic and action-oriented. Creating a diorama is fundamentally a cooperative, project-based endeavor. According to Social Interdependence Theory (Johnson & Johnson, 2009), when students must collaboratively negotiate how to physically represent systemic inequalities, power dynamics, or marginalized histories within a limited shared space, they are forced to practice micro-level democratic processes, empathy-driven dialogue, and collective decision-making. This materialization of abstract socio-political realities effectively translates tactile collaboration into a robust, internalized commitment to social equity.

Conversely, the lack of statistical significance and minimal growth in 'Recognition of diversity' (Indicator A; $p = 0.0568$) underscores the resilience of foundational cultural schemas. The literature on multicultural competence posits that baseline cultural awareness and the deconstruction of implicit biases involve deep-seated affective restructuring, which evolves at a much slower pace than task-driven behavioral commitments (Sue et al., 1998). A brief five-session intervention, while highly effective at mobilizing collaborative agency (Indicator D), is insufficient to dismantle long-standing cognitive preconceptions and internalized social conditioning regarding diversity. This divergence implies that while diorama-based CRT is an excellent catalyst for generating structural commitment and group agency, it must be paired with longitudinal, dialogic reflections to reshape foundational, personal perspectives on diversity successfully.

Collectively, these findings highlight that while short-term interventions face limitations in shifting foundational cultural awareness, structured, project-based activities like dioramas are remarkably effective in mobilizing students' active commitment to multicultural issues. This supports the integration of sustained experiential learning strategies within the sociology curriculum.

Diorama-Based CRT and Multicultural Awareness

The significant improvement in multicultural awareness among students in the experimental group can be attributed to integrating Culturally Responsive Teaching (CRT) principles with diorama-based learning. CRT emphasizes connecting teaching to students' cultural backgrounds, prior knowledge, and lived experiences to make learning more meaningful (Gay, 2021). In this study, the diorama project required students to represent social conflicts, cultural diversity, and conflict resolution in three dimensions, encouraging them to process, analyze, and communicate cultural concepts actively.

By constructing dioramas, students engaged in hands-on, reflective activities that align with Vygotsky's social constructivist theory, which emphasizes learning through social interaction and mediated experiences (Maidansky & Kravtsov, 2023). This process allowed students not only to visualize abstract sociological concepts but also to critically reflect on group dynamics, cultural symbols, and social justice issues within their communities. The necessity to negotiate ideas, allocate tasks, and explain the Diorama to peers further fostered both cognitive engagement and perspective-taking, crucial elements in developing multicultural competence (Banks & Banks, 2016a).



Figure 5. The results of the Diorama designed by students depicting the conflict of customary land disputes and language ethnocentrism

These findings are consistent with prior studies indicating that project-based, culturally anchored learning tasks can enhance students' awareness and appreciation of diversity (Ladson-Billings, 2023). The Diorama functioned as more than a visual aid; it became a tool for experiential learning, prompting students to connect theory to social reality. This may explain why the experimental group showed higher gain scores compared to the control group, which engaged with a two-dimensional poster that, while informative, offered less depth for interaction and critical reflection.

In relation to increasing students' multicultural awareness through diorama-based CRT learning, this approach also has significant potential to improve students' affective aspects, such as interest, intrinsic value, and emotional engagement with the subject matter, through multimodal and contextual learning experiences. Previous research has even found that dioramas allow students to explore learning situations concretely, thereby increasing intrinsic motivation and appreciation of learning content by presenting visual representations that reinforce the personal meaning and social relevance of the topics being studied (Farda et al., 2025; Handayani et al., 2024). In addition, the use of dioramas can stimulate students' empathy and self-awareness of the role of the characters or cultural contexts involved in the material, so that learning focuses not only on mastery of concepts but also on affective development, such as attitudes, values, and attention to the ethical implications and social impacts of what is learned (Gray et al., 2019). Based on observations during the experiments, the emphasis on collaborative exploration in diorama activities can also foster a sense of responsibility, teamwork, and interpersonal communication skills, which are key indicators of effective affective learning.

Nevertheless, differences in learning contexts and student characteristics may moderate affective impacts. Therefore, the design of the diorama assignment needs to be tailored to the student's affective profile and curricular goals, and to provide clear, supportive feedback to ensure consistent and sustained affective meaning. In aggregate, context-based learning experiences support the idea that concrete representations, such as dioramas, can expand students' opportunities for affectively meaningful learning, provided that learning design elements are carefully crafted to enable reflection, personal connection, and social interaction in the classroom.

Comparison with Cultural Thematic Poster Learning

The contrast between the experimental and control groups highlights the influence of learning media on students' engagement and conceptual understanding. While both groups participated in Project-Based Learning (PjBL) and engaged with sociological topics related to cultural diversity and social conflict, the type of media produced shaped the depth of cognitive and affective engagement. Students in the experimental group, tasked with creating dioramas, were required to represent spatial relationships, social interactions, and symbolic elements of cultural diversity in three dimensions. This demanded higher-order thinking, including analysis, synthesis, and evaluation, in accordance with Bloom's taxonomy (Liu et al., 2024).

In contrast, the control group created thematic posters, which primarily emphasized the visual representation of concepts in two dimensions. Although the poster-making process encouraged collaboration, planning, and summarization of key ideas, it offered fewer opportunities for students to explore relational dynamics or simulate complex social situations. Consequently, while both activities promoted engagement and reflection, the experiential depth and contextualization afforded by the diorama projects likely contributed to the larger gain scores observed in the experimental group.

These findings align with research on multimodal learning, which suggests that tasks requiring students to manipulate and organize physical representations enhance understanding and retention of abstract concepts (McNaughtan et al., 2021). Moreover, the interactive and embodied nature of diorama construction encourages perspective-taking and empathy, key components of multicultural competence (Banks & Banks, 2016b). The relatively small effect size in the Mann-Whitney U test indicates that, although the difference between media types is statistically significant, the incremental benefit of dioramas over posters may be moderated by the fact that both groups engaged in active, project-based processes.

Overall, the comparison demonstrates that although thematic posters can effectively convey information and support collaborative learning, dioramas provide additional affordances for experiential engagement, reflection, and deeper conceptual integration, which are central to fostering multicultural awareness within the context of sociology education.

Pedagogical Implications

The findings of this study suggest several practical implications for sociology educators seeking to enhance students' multicultural awareness. First, integrating Culturally Responsive Teaching (CRT) with project-based, hands-on activities, such as diorama construction, can provide meaningful context for students to engage with abstract sociological concepts. By representing cultural conflicts, social interactions, and resolutions in a tangible format, students are encouraged to think critically, collaborate effectively, and reflect on diverse perspectives.

Second, the results indicate that the choice of media influences both cognitive and affective outcomes. While posters serve as a valid tool for summarizing concepts and facilitating collaboration, dioramas promote richer experiential learning and provide opportunities for embodied understanding of social dynamics. Educators can leverage such media to foster empathy, perspective-taking, and problem-solving skills, which are essential for students' development as socially aware citizens in multicultural societies.

Third, this approach supports the broader aim of embedding active, student-centered learning strategies in sociology curricula. Even with limited classroom time, structured project-based interventions can produce measurable improvements in students' understanding and attitudes toward diversity. Consequently, teachers may consider combining multimodal learning tools with reflective and discussion-based activities to maximize the impact of multicultural education.

Limitations and Future Research

Despite the promising results, several limitations should be acknowledged. First, the study employed a quasi-experimental design with non-randomized groups, which may limit the generalizability of the findings. Second, the intervention lasted only four to five meetings, potentially limiting the magnitude of observed effects. Third, the assessment of multicultural awareness relied on a self-reported questionnaire, which may be subject to response bias.

Future research could address these limitations by employing randomized controlled designs, extending the intervention duration, and incorporating mixed-methods approaches, such as qualitative observations or interviews, to capture richer data on students' cognitive and affective engagement. Additionally, studies could explore integrating dioramas with digital tools or interactive media to enhance accessibility, scalability, and engagement, thereby further advancing strategies for cultivating multicultural competence in secondary education.

CONCLUSION

This study demonstrates that integrating Culturally Responsive Teaching (CRT) through diorama-based project learning effectively elevates students' multicultural awareness. Ultimately, the core insight of this research underscores that sociology education fundamentally requires immersive, experiential, and culturally anchored tasks to transition students from passive observers into empathetic, critical thinkers. By moving beyond conventional, static two-dimensional media toward tactile, three-dimensional modeling, students are given richer opportunities to actively construct, represent, and negotiate diverse social narratives, thereby fostering deep social empathy and rigorous critical reflection on complex societal issues. Consequently, educators are strongly encouraged to embed multimodal, experiential tasks within the sociology curriculum to support both cognitive and affective student development. To build upon these insights, future research should extend the intervention duration and diversify media formats, while utilizing a mixed-methods design to combine quantitative trends with rich qualitative assessments, thereby

gaining a deeper, more nuanced understanding of how active, responsive pedagogies reshape students' long-term attitudes toward diversity.

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