

CULTURALLY RESPONSIVE MAPEH LESSON PLANS AND STUDENTS' PERFORMANCE IN THE MOUNTAINOUS SCHOOLS IN SOUTH COTABATO

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Abstract

In the diverse cultural landscape of the Philippines, integrating local traditions and values into the educational system is essential for fostering an inclusive and enriching learning environment. This study employed experimental and descriptive-evaluative methods to determine and evaluate the effectiveness of culturally responsive MAPEH lesson plans. Conducted at Edwards National High School in South Cotabato during the school year 2024-2025, the study involved 60 Grade 9 students, 30 in the experimental group and 30 in the control group, selected through Simple Random Sampling. Results highlight that the developed culturally responsive MAPEH lesson plans demonstrated a very high extent of quality, meeting 91-100% of expected standards. Design elements such as font style, paper size, color combinations, usability, and labeling were rated to a very high extent. At the same time, durability and binding techniques were identified as areas for improvement. The lesson plans effectively integrated cultural responsiveness, ensuring alignment with students' linguistic, socio-economic, and religious backgrounds while fostering literacy, numeracy, and higher-order thinking skills. A significant improvement in academic performance was observed in the experimental group, which achieved higher posttest scores and was categorized as "Satisfactory" compared to the control group. A highly significant difference was found between the groups, confirming the intervention's effectiveness. Additionally, the experimental group demonstrated a significantly greater improvement in academic performance than the control group. The study concludes that culturally responsive lesson plans enhance students' engagement and learning outcomes. Recommendations include improving material durability, providing teacher training, and expanding culturally responsive teaching across subjects.

Keywords: Culturally Responsive, Lesson Plans, Mountainous Schools, Performance, Quantitative-Experimental.

Introduction

In the diverse cultural landscape of the Philippines, integrating local traditions and values into the educational system is essential for fostering an inclusive and enriching learning environment. South Cotabato, known for its mountainous regions and rich cultural heritage, presents unique challenges and opportunities for educators, particularly those teaching Music, Arts, Physical Education, and Health (MAPEH). Teachers in these areas are tasked with delivering standard curricula and adapting their teaching methods to reflect the cultural contexts of their students. There is also a growing concern about students' performance in MAPEH subjects. The lack of culturally responsive lesson plans for these subjects may contribute to students' underperformance.

Globally, culturally responsive teaching has been increasingly recognized as a crucial factor in enhancing educational outcomes. Culturally responsive teaching involves using cultural knowledge, prior experiences, and performance styles of diverse students to make learning more appropriate and effective for them (Gay, 2018). Studies have shown that incorporating students' cultural backgrounds into teaching can improve engagement, understanding, and academic performance (Ladson-Billings, 2018). Despite these benefits, a significant gap remains in developing and implementing culturally responsive lesson plans, particularly in subjects like MAPEH, which are inherently linked to cultural expressions. For instance, in the United States, studies highlight the underrepresentation of cultural diversity in arts and physical education curricula, affecting student participation and achievement (Paris & Alim, 2017). Similarly, efforts to integrate Indigenous knowledge into educational frameworks in Australia remain inconsistent, leading to disparities in learning outcomes (Santoro et al., 2018). These findings emphasize the global challenge of ensuring equitable and culturally relevant education, particularly in subjects that involve artistic and physical expression.

In the Philippines, the educational system has long been challenged by the need to address the diverse

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cultural backgrounds of its students. The Department of Education (DepEd) has initiated efforts to integrate indigenous knowledge and practices into the curriculum (DepEd, 2018). However, the focus has primarily been on major subjects like Mathematics and Science, with less emphasis on MAPEH. Implementing the K-12 curriculum highlighted the need for culturally relevant teaching methods to cater to the multicultural student population (Bernardo, 2017). Despite these initiatives, many teachers still lack the training and resources to develop culturally responsive lesson plans. The need for more culturally inclusive content is also evident in national assessments, where disparities in performance between urban and rural students persist (Reyes & Torres, 2019). Furthermore, while efforts such as the Indigenous Peoples Education (IPEd) Program aim to incorporate Indigenous knowledge systems into formal education, gaps remain in its practical application, particularly in subjects like MAPEH, where cultural expression plays a fundamental role (DepEd, 2018; Bernardo, 2017).

South Central Mindanao, particularly the mountainous regions of South Cotabato, is home to diverse Indigenous communities with rich cultural traditions. Schools in these areas face unique challenges, including limited resources and accessibility issues. The cultural diversity in these schools presents both opportunities and challenges for educators. Developing culturally responsive MAPEH lesson plans that reflect the local traditions and practices can enhance student engagement and learning outcomes. However, the capacity of teachers to design and implement such lesson plans is often constrained by a lack of professional development and support. Studies show that rural educators in indigenous-dominated areas struggle with integrating cultural contexts into lesson planning due to standardized curricula that do not reflect local traditions (Maligalig et al., 2020). Additionally, research indicates that students in remote schools often experience disengagement when educational content lacks cultural relevance, affecting retention and participation rates (Tupas & Salazar, 2019). While South Cotabato has taken steps to preserve indigenous traditions through community-based initiatives, the formal education system has yet to fully incorporate these elements into MAPEH instruction (Gultiano & del Rosario, 2021).

There is a significant gap in the literature regarding the development and impact of culturally responsive MAPEH lesson plans in South Central Mindanao. Specifically, research is needed to understand how these lesson plans affect the performance of MAPEH students in the mountainous schools of South Cotabato and how they can be effectively

integrated into the existing curriculum (DepEd, 2018; Bernardo, 2017). While studies have explored culturally responsive teaching strategies in core subjects, there is limited empirical research examining how MAPEH educators can integrate indigenous cultural elements into lesson planning and instruction. Moreover, the extent to which these culturally responsive approaches influence teacher effectiveness and student achievement remains underexplored. Addressing this gap is crucial for informing policy and instructional practices in culturally diverse learning environments.

This study addresses the need for culturally responsive teaching strategies that resonate with local communities. By developing and implementing lesson plans incorporating indigenous and local cultural elements, this study seeks to evaluate the impact of incorporating local cultural contexts and practices into MAPEH on students' engagement, motivation, and overall learning outcomes. Additionally, this study seeks to provide insights into effective pedagogical strategies that may enhance educational experiences for students in culturally diverse and geographically isolated settings by analyzing the link between culturally responsive lesson plans and student performance evaluations. The results of this study will contribute to the broader discourse on equitable education and the role of cultural responsiveness in shaping effective teaching strategies.

Statement of the Problem

The study answered the following questions:

- (1) What is the quality of the culturally responsive MAPEH lesson plans in content, mechanics, organization, and overall package?
- (2) What is the level of students' academic performance of the control and experimental groups in MAPEH lesson plans regarding the pretest and posttest? and
- (3) Is there a significant difference in the level of students' academic performance in the control and experimental groups in MAPEH regarding the pretest and posttest?

Methodology

This study employed experimental and descriptive-evaluative methods to determine and evaluate the effectiveness of a culturally responsive lesson plan. The control group had their class in a normal discussion, while the experimental group was taught culturally responsive teaching strategies.

This research was conducted at ENHS in South Cotabato during the school year 2024-2025. As one of the largest secondary schools in the Division of South Cotabato, ENHS primarily serves students from the indigenous T'boli tribe. The respondents were the Grade 9 students enrolled at EdNHS during

the School Year 2024-2025. Thirty students were recruited into the experimental group, and another thirty students were recruited into the control group using a random selection method based on a drawing of lots. Informed consent was obtained from all participants. The researchers ensured voluntary participation, allowing students and teachers to withdraw at any stage without consequences (Babbie, 2020; Protacio, 2021; Calyawa & Tampus, 2023; Dela Cruz et al., 2023).

This study employed a validation tool using a survey instrument and a five-point Likert Scale kind of questionnaire that was utilized to validate the quality of the culturally responsive MAPEH Lesson plans based on content, organization, mechanics, and overall package, which were evaluated by a panel of validators comprised of qualified master teachers teaching MAPEH. Furthermore, the test questionnaire through pretest and posttest were utilized to assess the academic performance of the Grade 9 students both experimental and control group which were evaluated by the three content evaluators from various basic and higher education institutions comprising master teacher in English, senior education program specialist in the South Cotabato Division and education program supervisor in the South Cotabato Division's MAPEH program.

The researcher prepared culturally responsive MAPEH lesson plans. Next, the researcher

identified the respondents through a simple random sampling technique to select 60 Grade 9 students. Then, a pretest was conducted using the lessons featured in the strategy to assess the students' cognitive and physical performance. After that, the researcher used the culturally responsive MAPEH lesson plans with 30 experimental respondents and a pure Learner's material platform with 30 control respondents in the students' separate residences during official class time. Subsequently, the students were given a posttest to evaluate the culturally responsive MAPEH lesson plans' substance, dependability, acceptance, and instructional usefulness. Lastly, data and forms were gathered, and the results were examined and interpreted.

The mean and standard deviation were used to assess the degree of evaluation of the culturally responsive MAPEH lesson plans in terms of content, mechanics, organization, and overall package, and to determine the students' academic performance in both the control and experimental groups. The t-test, on the other hand, was used to calculate the significant difference in students' academic performance in the pretest and posttest between the control and experimental groups, and the significant difference in mean gain scores between the control and experimental groups.

Results and Discussion

The Quality of the Culturally Responsive Lesson Plans

Table 1: Quality of the Culturally Responsive MAPEH Lesson Plans in terms of Content

No.	Indicators	Mean	SD	Description
1	Coverage of the lesson	5.00	0.00	Very High Extent
2	Appropriateness of the activities/exercises	5.00	0.00	Very High Extent
3	Appropriateness of the language used	4.25	0.50	Very High Extent
4	Content is appropriate to the target age level	4.25	0.50	Very High Extent
5	Content is culture-sensitive	5.00	0.00	Very High Extent
6	Content is gender sensitive	4.75	0.50	Very High Extent
7	Exercises are by the Filipino values	4.75	0.50	Very High Extent
8	Illustration and content are by ethical standards	5.00	0.00	Very High Extent
9	Explanations are self-explanatory	4.25	0.50	Very High Extent
10	Instruction is clear	5.00	0.00	Very High Extent
Overall		4.73	0.17	Meets 91-100% of the quality expectations

The result suggests that the lesson plans are comprehensive and carefully designed to be culturally relevant while adhering to established educational norms. The overall score of 4.73 suggests that these lesson plans meet 91-100% of the expected quality criteria, reflecting their overall

excellence in cultural responsiveness. According to Gay (2018), culturally responsive teaching incorporates students' diverse cultural backgrounds into the curriculum, creating a more inclusive and effective learning environment.

Table 2: Quality of the Culturally Responsive MAPEH Lesson Plans in terms of Mechanics

No.	Indicators	Mean	SD	Description
1	General instruction is user-friendly	4.50	0.58	Very High Extent
2	Examples are coherent	4.75	0.50	Very High Extent
3	Font size is readable	5.00	0.00	Very High Extent
4	Step-by-step procedure is in order	5.00	0.00	Very High Extent
5	Arrangement of parts	5.00	0.00	Very High Extent
6	Clarity of images/pictures/graphs	4.50	0.58	Very High Extent
7	Individual differences are considered per activity	5.00	0.00	Very High Extent
8	Weaknesses of target users are considered	4.50	0.58	Very High Extent
9	Development of one's creativity and critical thinking (assets) are emphasized	5.00	0.00	Very High Extent
10	Clear instruction per activity	5.00	0.00	Very High Extent
Overall		4.83	0.10	Meets 91-100% of the quality expectations

The data presented in Table 2 showcase the quality of culturally responsive MAPEH lesson plans in terms of their mechanics. Overall, the lesson plans were highly rated, with a mean score of 4.83, indicating they met 91-100% of the quality expectations. The mechanics of the lesson plans demonstrated a "very high" extent across all areas

assessed. These results align with the importance of clear and accessible teaching materials in fostering inclusive education. According to Gay (2018), culturally responsive teaching requires a deep understanding of the cultural backgrounds of students and the design of accessible, effective, and engaging materials.

Table 3: Quality of the Culturally Responsive MAPEH Lesson Plans in terms of Organization

No.	Indicators	Mean	SD	Description
1	Sequence of Topics (simple to complex)	5.00	0.00	Very High Extent
2	Order of presentation of lesson	5.00	0.00	Very High Extent
3	Arrangement of basic parts	5.00	0.00	Very High Extent
4	Illustrations used	4.75	0.50	Very High Extent
5	Spacing of every part	5.00	0.00	Very High Extent
6	Harmony of font styles	5.00	0.00	Very High Extent
7	Uniformity of lay out	4.75	0.50	Very High Extent
8	Technical Description (Objective per lesson)	5.00	0.00	Very High Extent
9	Technical terms used	5.00	0.00	Very High Extent
10	Concepts of every lesson	5.00	0.00	Very High Extent
Overall		4.95	0.10	Meets 91-100% of the quality expectations

The data presented in Table 3 indicates a very high extent of culturally responsive lesson plans regarding the organization, with an overall mean of 4.95, signifying that the lesson plans meet 91-100% of the quality expectations. The importance of well-organized lesson plans is echoed in research by

Green and Hennessey (2020), who assert that a well-structured lesson plan supports effective content delivery and ensures that students' cultural backgrounds are respected and integrated into the learning process.

Table 4: Quality of the Culturally Responsive MAPEH Lesson Plans in terms of Overall Package

No.	Indicators	Mean	SD	Description
1	Styles of letter of fonts	5.00	0.00	Very High Extent
2	Appropriateness of binding techniques used	4.50	0.58	Very High Extent
3	Paper sized used	5.00	0.00	Very High Extent
4	Paper quality used	4.75	0.50	Very High Extent
5	Color combinations	5.00	0.00	Very High Extent
6	Durability	4.75	0.50	Very High Extent
7	Handiness	4.75	0.50	Very High Extent

8 Appropriateness of cover design	5.00	0.00	Very High Extent
9 Usability	5.00	0.00	Very High Extent
10 Labels and captions	5.00	0.00	Very High Extent
Overall	4.88	0.10	Meets 91-100% of the quality expectations

The data in Table 4 highlights the quality of the culturally responsive MAPEH lesson plans regarding various design elements, with all aspects receiving very high ratings. The overall mean score of 4.88 indicates that the lesson plans met 91-100% of the quality expectations, underscoring their effectiveness in fulfilling the required standards for cultural responsiveness and practical use in educational settings. Supporting research shows the

importance of these design elements in fostering effective and engaging lesson plans. For instance, research by Rivera et al. (2021) emphasizes the role of culturally responsive teaching materials in improving student engagement, suggesting that the aesthetic quality and functionality of lesson plans, including aspects like color combinations, usability, and design, directly influence learners' interest and participation.

Table 5: Summary of the Quality of Culturally Responsive MAPEH Lesson Plans

Domain	Mean	SD	Description
Content	4.73	0.17	Meets 91-100% of the quality expectations
Mechanics	4.83	0.10	Meets 91-100% of the quality expectations
Organization	4.95	0.10	Meets 91-100% of the quality expectations
Overall Package	4.88	0.10	Meets 91-100% of the quality expectations

The data presented in Table 5 highlights the overall quality of the culturally responsive MAPEH lesson plans, indicating that they meet 91-100% of the quality expectations across all domains. Among the four areas evaluated, the organization received the highest rating (4.95), followed closely by the overall package (4.88), mechanics (4.83), and content (4.73). These results suggest that the lesson plans are well-organized, structurally coherent, and effectively designed regarding presentation,

usability, and instructional mechanics. The slightly lower score in content, while still within the very high extent category, indicates room for further enhancement in ensuring that lesson materials are even more culturally inclusive and age-appropriate. According to Gay (2018), culturally responsive lesson plans should integrate students' cultural backgrounds and lived experiences into instructional materials to create a more inclusive learning environment.

Table 6: Level of Students' Academic Performance of the Control and Experimental Groups in the Pretest

Pretest	Mean	SD	Description
Control	42.20	8.97	Did not meet the expectations
Experimental	41.67	9.56	Did not meet the expectations

The pretest results indicate that both groups started with relatively low mean scores, 42.20 (SD = 8.97) for the control group and 41.67 (SD = 9.56) for the experimental group, both categorized as "Did Not Meet the Expectations." The result suggests that before any intervention, students in both groups

exhibited similar levels of academic performance. According to Şimşek and Genç (2022), interactive and student-centered teaching approaches significantly enhance engagement and retention, leading to better academic performance.

Table 7: Level of Students' Academic Performance of the Control and Experimental Groups in Posttest

Posttest	Mean	SD	Description
Control	69.93	6.59	Did not meet the expectations
Experimental	83.87	6.83	Satisfactory

The posttest results reveal a significant improvement in the experimental group, which achieved a mean score of 83.87 (SD = 6.83),

categorized as "Satisfactory." In contrast, the control group also showed progress but only reached a mean score of 69.93 (SD = 6.59), remaining in the "Did

Not Meet the Expectations" category. These results indicate that the intervention applied to the experimental group substantially positively affected students' academic performance in MAPEH. The present results are relevant to the idea that Reyes and

Bautista (2020) found that using multimedia-based and contextually relevant instructional materials in Philippine classrooms notably increased students' motivation and comprehension, especially in subjects perceived as less engaging.

Table 8: Difference in the Level of Students' Academic Performance of the Control and Experimental Groups in the Pretest

Pretest	Mean	SD	Difference	ttest	p-value
Control	42.20	8.97	0.53	0.82	0.23
Experimental	41.67	9.56			

The pretest results indicate no significant difference between the control group (M = 42.20, SD = 8.97) and the experimental group (M = 41.67, SD = 9.56), with a p-value of 0.23. This suggests that both groups had comparable initial performance levels.

Basri et al. (2019) state that active learning approaches, such as game-based and project-based strategies, significantly enhance student engagement and academic achievement.

Table 9: Difference in the Level of Students' Academic Performance of the Control and Experimental Groups in Posttest

Posttest	Mean	SD	Difference	t-test	p-value
Control	69.93	6.59	13.93	<0.00001	8.04
Experimental	83.87	6.83			

The post-test results reveal a significant difference in academic performance between the two groups. The experimental group (M = 83.87, SD = 6.83) demonstrated a markedly higher mean score than the control group (M = 69.93, SD = 6.59), with a highly significant p-value of 8.04. The result indicates that the intervention used in the experimental group

effectively enhanced students' learning outcomes. The results align with previous studies of Gonzales and Torres (2021), highlighting the importance of multimodal learning strategies in MAPEH, noting that incorporating technology, collaborative learning, and real-world applications can improve comprehension and retention among students.

Table 10: Difference in the Mean Gain Scores Between the Experimental and Control Groups

	Mean	SD	Difference	t-test	p-value
Control	27.73	10.07	14.47	<0.00001	5.76
Experimental	42.20	9.36			

The results indicate a significant difference in the mean gain scores between the experimental and control groups, with the experimental group achieving significantly higher scores (M=42.20, SD=9.36) than the control group (M=27.73, SD=10.07). The computed t-test value of <0.00001 and p-value of 5.76 suggest that the observed difference is statistically significant. The result implies that the intervention implemented in the experimental group had a meaningful impact on enhancing learning outcomes. This result aligns with previous research emphasizing the effectiveness of structured interventions in improving student performance. Hattie (2018) states that targeted instructional strategies significantly enhance students' academic gains, particularly those

incorporating interactive and engaging methodologies.

Conclusion

The culturally responsive MAPEH lesson plans demonstrated exceptional quality, particularly in font style, color combinations, usability, and labeling, making them highly effective instructional tools. While they effectively integrated cultural elements and diverse instructional strategies, minor refinements in binding techniques and material durability could further enhance their longevity and practicality. The lesson plans successfully fostered literacy, numeracy, and higher-order thinking skills, contributing to an enriched learning experience.

The two groups exhibited similar levels of academic performance in the pretest before the intervention. To enhance students' academic performance in MAPEH, culturally responsive lesson plans that integrate cultural elements must be implemented. The intervention improved student performance, as evidenced by the experimental group's enhanced posttest results compared to the control group, confirming its effectiveness.

The significant difference in gain scores between the two groups underscores the substantial positive impact of the lesson plans on student learning outcomes, affirming their effectiveness in promoting meaningful and culturally responsive education.

Conflict of Interest

There is no conflict of interest by the authors in this manuscript.

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