

Integration of Culture-Based Pedagogy in Elementary Classrooms: A Study of Learning Outcomes in Light of NEP 2020

Pratima Mandala^{1*}

Ph. D scholar F. M. University, Bal asore.

Email ID - pmandala1205@gmail.com

Dr. Pratima Pradhan²

Assistant Professor, Department of Education,

F. M. University, Balasore

Abstract:

The National Education Policy (NEP) 2020 emphasizes the integration of Indian culture, local knowledge systems, and experiential learning into classroom practices to enhance holistic student learning outcomes. In this context, the present study aims to examine the effectiveness of Culture-Based Learning (CBL) integrated into the teaching–learning process for achieving students’ learning outcomes at the elementary level. The objectives of the study were: (i) to design and implement culture-based learning strategies in classroom instruction, (ii) to assess students’ learning outcomes before and after the intervention, and (iii) to analyze the effectiveness of culture-based learning in alignment with NEP 2020. The study adopted an experimental method with a single-group pre-test and post-test design. The sample consisted of 60 Class VI students, selected through simple random sampling from elementary schools of Jatni Block, Khordha District, Odisha. The population of the study included all elementary school students of Khordha district. The tools used for data collection were a researcher-constructed pre-test and post-test achievement sheet, validated by subject experts. The intervention involved the use of new culture-based teaching strategies such as local stories and folklore, indigenous games, traditional art forms, community practices, cultural examples in lessons, and activity-based learning rooted in students’ immediate cultural environment. Data were analyzed using percentage analysis to compare pre-test and post-test performance. The findings revealed a significant improvement in students’ learning outcomes after the implementation of culture-based learning strategies. The post-test scores showed higher achievement levels compared to pre-test scores, indicating that integrating cultural elements into teaching enhances students’ understanding, engagement, and retention of concepts. The study concludes that culture-based learning is an effective pedagogical approach and supports the vision of NEP 2020 in promoting contextual, meaningful, and inclusive education.

Keywords: Culture-Based Learning (CBL), National Education Policy (NEP).

INTRODUCTION

Education is deeply rooted in culture, as culture shapes individuals’ ways of thinking, learning, and interacting with the world. Culture-based learning recognizes learners’ cultural backgrounds, local knowledge systems, traditions, and lived experiences as valuable resources in the teaching–learning process. When classroom instruction is meaningfully connected to learners’ cultural contexts, learning becomes more relevant, engaging, and effective (Gay, 2018). In recent years, educational reforms have increasingly emphasized the integration of culture into pedagogy to promote holistic development and meaningful learning outcomes. The National Education Policy (NEP) 2020 of India strongly advocates the incorporation of Indian ethos, local traditions, indigenous knowledge, and cultural values into school education. NEP 2020 highlights that education should not be disconnected from learners’ socio-cultural realities but should reflect and nurture India’s rich cultural heritage while fostering creativity, critical thinking, and conceptual understanding (Government of India, 2020). The policy envisions an education system that is contextual, experiential, learner-centered, and inclusive, ensuring that students relate academic knowledge to real-life experiences. Culture-Based Learning (CBL) aligns closely with the pedagogical principles proposed in NEP 2020, such as experiential learning, activity-based learning, storytelling, art integration, and learning through local contexts. According to Ladson-Billings (1995), culturally relevant pedagogy empowers students intellectually, socially, and emotionally by using cultural referents to impart knowledge, skills, and attitudes. In the elementary stage, where foundational learning is crucial, culturally responsive instructional practices help learners connect new concepts with familiar cultural experiences, thereby improving comprehension and retention. Learning outcomes, as emphasized by NEP 2020, focus not only on academic achievement but also on cognitive, social, emotional, and ethical development. Integrating culture into teaching–learning processes supports these outcomes by fostering curiosity, motivation, collaboration, and a sense of identity among students (Banks, 2016). Particularly at the upper primary level, students benefit from pedagogical strategies that acknowledge their local environment, community practices, language, and traditions. Despite the strong policy emphasis, the actual classroom integration of culture-based learning remains limited in many elementary schools. Teachers often rely on textbook-centered and examination-oriented practices, which may overlook students’ cultural capital. Hence, there is a need for empirical studies to examine the effectiveness of culture-based learning strategies in achieving students’ learning outcomes in real classroom settings. Therefore, the present study attempts to investigate the integration of culture-based learning in the teaching–learning process and its impact on the learning outcomes of Class VI students, in alignment with the vision of NEP 2020. By implementing culturally grounded teaching strategies and assessing students’ achievement through pre-test and post-test measures, the study seeks to contribute evidence-based insights for improving elementary education practices.

2. REVIEW OF LITERATURE

The integration of culture into the teaching–learning process has been widely recognized as a powerful approach to enhance students’ learning outcomes. Culture-based learning emphasizes the use of learners’ cultural backgrounds, local knowledge, traditions, language, and community experiences as instructional resources. Numerous studies at national and international levels have examined the role of culturally responsive and culturally relevant pedagogy in improving academic achievement, engagement, and holistic development of learners.

Studies on Culture-Based and Culturally Responsive Learning

Ladson-Billings (1995) introduced the concept of culturally relevant pedagogy, emphasizing academic success, cultural competence, and critical consciousness. Her study revealed that students perform better academically when instruction is aligned with their cultural identities and lived experiences. Similarly, Gay (2018) highlighted that culturally responsive teaching promotes meaningful learning by bridging the gap between home culture and school culture.

Banks (2016) emphasized multicultural education as a reform movement that restructures educational institutions to enable students from diverse cultural backgrounds to achieve academic success. His findings indicated that culturally inclusive teaching strategies foster positive attitudes toward learning and improve conceptual understanding among elementary students.

Nieto (2010) found that culture-based instructional practices enhance student motivation, classroom participation, and learning retention. The study emphasized that acknowledging students’ cultural backgrounds leads to a more inclusive and equitable learning environment.

Studies on Culture-Based Learning at the Elementary Level

Au (2011) conducted a study on culturally mediated instruction at the elementary level and reported significant improvement in reading comprehension and conceptual clarity among students exposed to culturally grounded teaching strategies. The study emphasized the importance of contextualizing content to students’ cultural realities.

Moll et al. (1992), through the concept of Funds of Knowledge, demonstrated that incorporating students’ household and community knowledge into classroom instruction improves learning outcomes and strengthens teacher–student relationships. Their findings are particularly relevant for elementary education, where learners rely heavily on familiar contexts for understanding new concepts.

Indian Studies Related to Culture-Based Learning

Kundu and Biswas (2019) examined the effectiveness of culture-based pedagogy in elementary schools and found a significant improvement in students' achievement and classroom engagement. The study highlighted that local stories, folk traditions, and indigenous practices help students relate textbook concepts to real-life situations.

Sharma and Gupta (2020) studied experiential and culture-based learning practices in Indian schools and concluded that culturally integrated instruction enhances critical thinking and conceptual understanding. The study also noted alignment with the recommendations of NEP 2020.

NCERT (2017) emphasized the role of art-integrated and culture-based pedagogy in promoting joyful and meaningful learning. The position paper suggested that learning rooted in cultural contexts improves students' cognitive and affective outcomes.

Studies Related to NEP 2020 and Learning Outcomes

The National Education Policy (Government of India, 2020) strongly advocates the integration of Indian knowledge systems, local contexts, and cultural values into school curricula. Studies by Kumar (2021) and Mishra (2022) analyzed NEP 2020 and emphasized that culture-based and experiential learning approaches are essential for achieving competency-based learning outcomes.

Rao and Devi (2021) investigated pedagogical reforms under NEP 2020 and reported that contextual and culture-based instructional strategies significantly improve students' engagement and achievement at the upper primary level.

Research Gap: A critical analysis of the reviewed studies reveals that although extensive research exists on culturally responsive pedagogy and multicultural education, empirical experimental studies focusing on the integration of culture-based learning in elementary classrooms in Odisha, particularly at the Class VI level, are limited. Moreover, very few studies have examined culture-based learning strategies in direct alignment with the learning outcomes prescribed under NEP 2020 using pre-test and post-test designs. Hence, there is a clear need for systematic experimental research to examine the effectiveness of culture-based learning in achieving students' learning outcomes at the elementary level.

The objectives of the study

The objectives of the study were

- (i) To design and implement culture-based learning strategies in classroom instruction.
- (ii) To assess students' learning outcomes before and after the intervention.
- (iii) To analyze the effectiveness of culture-based learning in alignment with NEP 2020.

3. METHODOLOGY

3.1 Research Design

The present study adopted an experimental research design, specifically a single-group pre-test and post-test design, to examine the effectiveness of integrating Culture-Based Learning (CBL) into the teaching-learning process for achieving students' learning outcomes as envisioned in NEP 2020. This design was considered appropriate to measure the change in students' learning outcomes before and after the implementation of culture-based teaching strategies.

3.2 Method of the Study: The experimental method was used in this study, as it allows the researcher to introduce an instructional intervention and observe its impact on the dependent variable. Culture-based learning strategies were systematically implemented in classroom teaching, and their effectiveness was assessed through pre-test and post-test scores.

3.3 Variables of the Study

• **Independent Variable:** Integration of Culture-Based Learning strategies in the teaching-learning process.

• **Dependent Variable:** Students' learning outcomes.

3.4 Population of the Study

The population of the present study consisted of all elementary school students of Khordha District, Odisha.

3.5 Sample of the Study: The sample comprised 60 students of Class VI, selected from elementary schools of Jatni Block, Khordha District. The students were selected using the simple random sampling technique, ensuring equal representation and minimizing sampling bias.

3.6 Sampling Technique: The simple random sampling method was employed to select the sample. Each student had an equal chance of being included in the study, which enhanced the representativeness and generalizability of the findings.

3.7 Tools Used for Data Collection: The following tools were used in the study:

1. **Pre-Test Achievement Sheet:** A researcher-constructed achievement test was administered before the experimental treatment to assess students' initial level of learning outcomes.
2. **Post-Test Achievement Sheet:** The same achievement test was administered after the intervention to measure the improvement in students' learning outcomes.

Both tools were validated by subject experts to ensure content validity.

3.8 Description of Culture-Based Learning Strategies: The experimental treatment involved the integration of culture-based learning strategies aligned with the recommendations of NEP 2020. The major strategies used were:

- Use of local stories, folklore, and traditional narratives
- Integration of indigenous games and cultural activities
- Linking textbook concepts with local community practices
- Art-integrated learning using traditional art forms
- Group activities based on local cultural contexts
- Experiential and activity-based learning rooted in students' lived experiences. These strategies were implemented

during regular classroom teaching over a specified period.

3.9 Procedure of the Study: The study was conducted in the following steps:

1. Selection of the sample using simple random sampling.
2. Administration of the pre-test to assess students' initial learning outcomes.
3. Implementation of culture-based learning strategies in classroom instruction.
4. Administration of the post-test after completion of the intervention.
5. Collection and tabulation of data for analysis.

3.10 Statistical Techniques Used: The collected data were analyzed using percentage analysis. Pre-test and post-test scores were compared to determine the improvement in students' learning outcomes resulting from the culture-based learning intervention.

3.11 Delimitations of the Study

- The study was limited to Class VI students only.
- The sample size was restricted to 60 students.
- The study was confined to elementary schools of Jatni Block, Khordha District.
- Only learning outcomes were considered as the dependent variable.

3.12 Ethical Considerations

Permission was obtained from school authorities prior to conducting the study. Students were informed about the purpose of the study, and confidentiality of data was strictly maintained

4. ANALYSIS AND INTERPRETATION OF DATA

4.1 Analysis of Pre-Test Scores

The pre-test was administered to assess the initial level of learning outcomes of Class VI students before the implementation of culture-based learning strategies.

Table 4.1: Percentage Distribution of Students' Pre-Test Scores

| Level of Achievement | Score Range | Number of Students | Percentage |
|----------------------|-------------------|--------------------|------------|
| Low | Below 40% | 26 | 43.33 |
| Average | Average 40% – 59% | 22 | 36.67 |
| High | High 60% & above | 2 | 120.00 |
| Total | | 60 | 100 |

The analysis of pre-test scores reveals that a majority of students (43.33%) were at the low level of achievement, while only 20% of students demonstrated a high level of learning outcomes. This indicates that students' initial learning outcomes were generally low before the intervention.

4.2 Analysis of Post-Test Scores

After implementing culture-based learning strategies, the post-test was administered to assess the improvement in students' learning outcomes.

Table 4.2: Percentage Distribution of Students' Post-Test Scores

| Level of Achievement | Score Range | Number of Students | Percentage |
|----------------------|-------------------|--------------------|------------|
| Low | Below 40% | 8 | 13.33 |
| Average | Average 40% – 59% | 18 | 30.00 |
| High | High 60% & above | 34 | 56.67 |

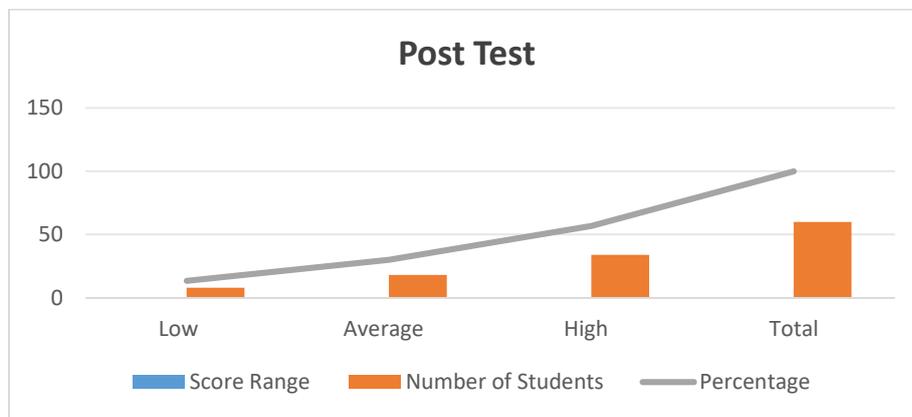


Figure 3.1: Percentage Distribution of Students' Post-Test Scores

The post-test analysis shows a substantial improvement in students' learning outcomes. More than half of the students (56.67%) achieved a high level of performance, while the percentage of low achievers decreased significantly to 13.33%.

4.3 Comparative Analysis of Pre-Test and Post-Test Scores

To determine the effectiveness of culture-based learning strategies, a comparison of pre-test and post-test percentage distributions was made.

Table 4.3: Comparison of Pre-Test and Post-Test Achievement Levels

| Level of Achievement | Pre-Test (%) | Post-Test (%) | Difference (%) |
|----------------------|--------------|---------------|----------------|
| Low | 43.33 | 13.33 | -30.00 |
| Average | 36.67 | 30 | -6.67 |
| High | 20 | 56.67 | 36.67 |

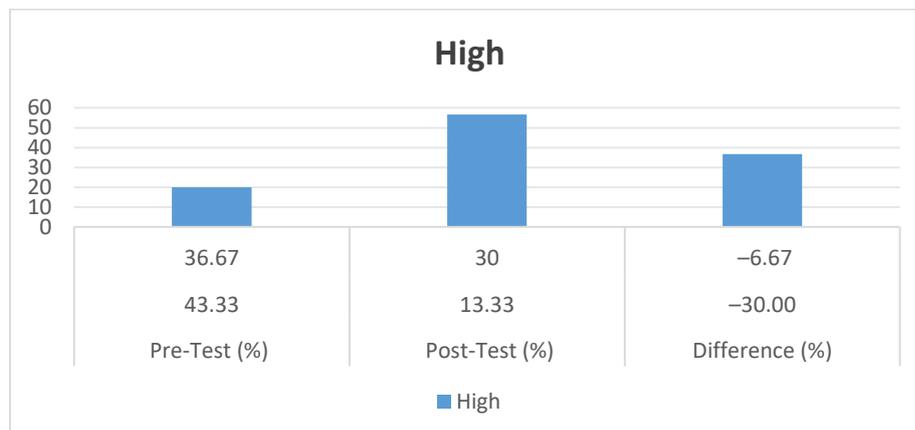


Figure 3.2: Comparison of Pre-Test and Post-Test Achievement Levels

The comparative analysis clearly indicates a significant shift of students from low and average achievement levels to the high achievement level after the implementation of culture-based learning strategies. The increase of 36.67% in the high achievement category highlights the effectiveness of the intervention.

4.4 Discussion of Results

The findings suggest that the integration of culture-based learning strategies had a positive impact on students' learning outcomes. The use of local stories, indigenous practices, art-integrated activities, and community-based examples helped students relate academic content to their real-life experiences. This contextualized approach enhanced students' understanding, motivation, and engagement in learning. The results are consistent with the objectives of NEP 2020, which advocates experiential, contextual, and culturally rooted learning to achieve holistic educational outcomes. The improvement observed in post-test scores confirms that culture-based learning is an effective pedagogical strategy at the elementary level.

4.5 Summary

The analysis of data reveals that culture-based learning significantly improved the learning outcomes of Class VI students. Percentage analysis of pre-test and post-test scores demonstrated a marked enhancement in students' academic performance after the intervention. Therefore, it can be concluded that integrating culture-based learning in classroom instruction effectively supports the achievement of students' learning outcomes as envisioned in NEP 2020.

5.1 FINDINGS OF THE STUDY

Based on the analysis and interpretation of data, the following findings emerged:

1. The pre-test results indicated that a majority of Class VI students had low to average learning outcomes before the implementation of culture-based learning strategies.
2. The post-test results showed a significant improvement in students' learning outcomes, with a substantial increase in the percentage of students achieving a high level of performance.
3. There was a marked reduction in the percentage of low achievers after the experimental treatment, indicating the positive impact of culture-based learning.
4. Culture-based learning strategies such as local stories, folk traditions, indigenous games, art-integrated activities, and community-based examples enhanced students' engagement and understanding of concepts.
5. The comparative percentage analysis of pre-test and post-test scores demonstrated that culture-based learning is more effective than traditional textbook-centered instruction in achieving students' learning outcomes.
6. The findings support the pedagogical vision of NEP 2020, which emphasizes contextual, experiential, and culturally rooted learning for holistic development.

5.2 CONCLUSION

The present study concludes that the integration of culture-based learning in the teaching-learning process has a positive and significant effect on students' learning outcomes at the elementary level. The experimental intervention enabled students to connect academic content with their cultural background and lived experiences, thereby improving comprehension, retention, and motivation. The results clearly indicate that culture-based learning is an effective pedagogical approach for achieving the learning outcomes envisioned under NEP 2020. By moving beyond rote learning and incorporating culturally meaningful contexts, teachers can create inclusive and learner-centered classrooms. Hence, the study establishes that culture-based learning not only enhances academic achievement but also contributes to the holistic development of students.

5.3 EDUCATIONAL IMPLICATIONS

The findings of the study have important implications for various stakeholders in education:

For Teachers

- Teachers should integrate local culture, traditions, and community knowledge into daily classroom teaching.
- Use of storytelling, folk art, indigenous games, and art-integrated activities can make learning more meaningful and engaging.
- Teachers can design lesson plans aligned with NEP 2020 by adopting experiential and culture-based pedagogies.

For Curriculum Planners

- Curriculum frameworks should incorporate local and regional cultural elements to contextualize learning.
- Textbooks should include examples, activities, and illustrations drawn from students' immediate cultural environment.

For Teacher Educators

- Pre-service and in-service teacher training programmes should emphasize culture-based and experiential learning strategies.
- Professional development programmes should train teachers to effectively implement NEP 2020 recommendations in classrooms.

For School Administrators

- Schools should encourage teachers to use innovative and culturally responsive teaching practices.
- Support should be provided for organizing cultural activities, exhibitions, and community-based learning experiences.

For Policy Makers

- The study reinforces the need for systematic implementation of NEP 2020 at the grassroots level.
- Policies should promote culture-based pedagogy as a key strategy for improving learning outcomes in elementary education.

5.4 Scope for Further Research

- Similar studies may be conducted using larger samples and control groups.
- Future research may explore the impact of culture-based learning on affective and social outcomes.
- Comparative studies across different regions and grade levels can be undertaken.

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