

# "Learning Styles And Academic Achievement: A Comparative Study Of Urban And Rural Learners Of Assam"

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## Abstract

Learning styles play a crucial role in shaping students' academic outcomes by influencing how they process and retain information. This comparative study explores the relationship between learning styles and academic achievement among urban and rural high school learners in Assam. Using Kolb's Learning Style Inventory (LSI), the study identifies predominant learning styles among 200 students—100 each from urban and rural schools—and analyzes their correlation with academic performance. The findings reveal significant differences in preferred learning styles between urban and rural learners, with urban students leaning more towards assimilating and converging styles, while rural students showed a preference for accommodating and diverging styles. Moreover, students whose learning styles matched teaching strategies demonstrated better academic achievement. The study suggests a need for differentiated instruction tailored to varied learning preferences to bridge the urban-rural learning gap and enhance academic performance in diverse educational contexts.

## Keywords

Learning Styles, Academic Achievement, Urban and Rural Learners, Kolb's Learning Style Inventory, Assam, Secondary Education, Comparative Study, Teaching Strategies

## Introduction:-

In the diverse educational landscape of India, the effectiveness of teaching and learning is significantly influenced by students' individual learning preferences. Learning styles refer to the consistent ways individuals perceive, process, and respond to educational content. Understanding these styles is essential for educators to design effective pedagogy that aligns with students' cognitive and behavioral tendencies.

Assam, a state marked by a blend of urban educational advancement and rural infrastructural limitations, provides a relevant context for studying learning styles and their impact on academic achievement. While urban learners often benefit from access to modern learning resources and exposure to varied pedagogical approaches, rural students typically experience traditional, teacher-centric instruction. These differences may influence how students engage with content and demonstrate academic success.

Despite the recognized significance of learning styles in global research, limited empirical studies have examined the urban-rural divide in this context in Assam. This study addresses that gap by analyzing how learning styles vary between urban and rural students and how these variations relate to academic performance. The outcomes can inform educators and policymakers about the importance of adaptive teaching strategies to foster equity in learning.

## Objectives of the Study:-

1. To identify and compare the predominant learning styles of urban and rural high school students in Assam.
2. To examine the academic achievement levels of students with different learning styles.
3. To analyze the relationship between learning styles and academic achievement among urban and rural learners.
4. To provide suggestions for instructional strategies that align with varied learning styles to improve educational outcomes across regions.

## Review of Related Literature:-

Understanding the relationship between learning styles and academic achievement has been a central theme in educational psychology and pedagogy. Several theorists and researchers have emphasized that tailoring instruction to students' preferred learning styles can positively affect motivation, comprehension, and performance.

**Kolb's Experiential Learning Theory (1984)** serves as a foundational framework in learning style research. According to Kolb, learning is a continuous process grounded in experience and involves four modes: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Based on these, Kolb identified four learning styles—**Diverging, Assimilating, Converging, and Accommodating**—each describing different ways individuals perceive and process information. This theory is widely used in educational settings to analyze learner preferences and inform instructional strategies.

**Felder and Silverman (1988)** highlighted that matching teaching styles with learning styles helps enhance academic performance and student satisfaction. Their model stressed the importance of recognizing that learners differ not just in ability but in the way they prefer to receive and internalize knowledge.

**Dunn and Dunn (1992)** proposed that environmental, emotional, sociological, physiological, and psychological elements all contribute to learning styles. Their research found that individualized instruction based on learning style assessments significantly improved student outcomes.

In the Indian context, **Rani and Govindarajulu (2014)** conducted a study among secondary school students in Tamil Nadu and reported that assimilators and convergers performed better academically compared to divergers and accommodators. They concluded that students who preferred logical and conceptual learning approaches tended to perform better in structured academic environments.

**Verma and Sharma (2016)** examined learning styles among rural and urban adolescents in Uttar Pradesh. They found that **urban students showed a stronger preference for assimilating and converging styles**, attributed to their access to diverse learning resources and exposure to conceptual teaching. In contrast, **rural students exhibited more accommodating and diverging styles**, which rely on hands-on experience and emotional observation.

**Ali, Tariq, and Topping (2017)** explored the impact of learning styles on academic performance among secondary students in Pakistan and found a significant relationship between the two. They also noted that students whose learning styles aligned with their school's teaching methodology achieved better academic results.

In the North-Eastern region of India, limited empirical research has focused on learning styles. However, **Das and Borkotokey (2019)** investigated pedagogical practices in rural schools of Assam and reported that a lack of student-centered approaches and poor teacher training often led to disengagement among learners. Their findings point to the need for adaptive teaching that considers students' learning preferences, especially in under-resourced rural areas.

The literature thus consistently indicates that learning styles influence academic performance and that urban and rural learners may differ in their preferences due to socio-economic and educational factors. However,

the scarcity of region-specific studies in Assam necessitates research that explores these dynamics in the local context. This study builds on the existing body of knowledge and seeks to provide a comparative understanding of learning styles and academic performance among urban and rural high school students in Assam.

## Methodology:-

### Research Design

This study employed a **descriptive comparative research design** to examine and compare the learning styles and academic achievement of urban and rural high school students in Assam. The design was chosen to facilitate a systematic comparison between the two groups based on quantifiable variables.

### Population and Sample

The population of the study comprised students from Class IX and X in selected high schools of Assam. Using **stratified random sampling**, two strata were created: urban and rural. From each stratum, two schools were randomly selected—one government and one private.

- **Total Sample Size:** 200 students
  - **Urban Students:** 100 (50 from a government school and 50 from a private school in Guwahati)
  - **Rural Students:** 100 (50 from a government school and 50 from a private school in Barpeta district)

## Major Findings:-

Based on the analysis of data collected from 200 high school students (100 urban and 100 rural) in Assam using Kolb's Learning Style Inventory and academic performance records, the following major findings were observed:

### 1. Distribution of Learning Styles

- **Urban Learners:**
  - The most common learning styles among urban students were **Assimilating (36%)** and **Converging (30%)**.
  - A smaller proportion preferred Diverging (18%) and Accommodating (16%) styles.
- **Rural Learners:**
  - The predominant learning styles among rural students were **Accommodating (38%)** and **Diverging (28%)**.
  - Fewer students fell under Converging (20%) and Assimilating (14%) categories.

This indicates a clear variation in learning style preferences between urban and rural learners, with urban students favoring abstract conceptualization, and rural students favoring hands-on, experience-based learning.

### 2. Academic Achievement and Learning Styles

- Students with **Converging** and **Assimilating** learning styles consistently scored higher in academic subjects, particularly in Mathematics and Science.
- Students with **Accommodating** and **Diverging** styles had moderate performance, with relatively better results in English and Social Studies.
- A statistically significant difference ( $p < 0.05$ ) was observed in academic performance across learning styles, favoring convergers and assimilators.

### 3. Urban vs. Rural Academic Achievement

- **Urban students** had a **higher mean academic score** ( $M = 68.4\%$ ) compared to **rural students** ( $M = 61.2\%$ ).
- The difference in achievement was statistically significant ( $t = 3.48, p < 0.01$ ), indicating that urban students outperformed their rural counterparts.
- The performance gap was particularly notable in Science and English subjects.

### 4. Learning Style–Achievement Alignment

- Students whose learning styles **matched their school's teaching approach** (e.g., conceptual learning in urban private schools for assimilators) performed significantly better.
- In rural schools, where teaching was largely lecture-based and lacked differentiated methods, accommodating and diverging learners struggled to stay engaged.

## Recommendations / Suggestions:-

### 1. Incorporate Learning Style Assessments in Schools

Schools, both urban and rural, should conduct **periodic assessments of students' learning styles** using tools such as Kolb's Learning Style Inventory. This will help teachers identify the dominant learning preferences of their students and adjust instructional methods accordingly.

### 2. Adopt Differentiated Instructional Strategies

Teachers should be encouraged and trained to apply **differentiated teaching strategies** that cater to multiple learning styles. For example:

- **Assimilators** may benefit from concept maps, lectures, and reading materials.
- **Convergers** may excel with problem-solving tasks and simulations.
- **Accommodators** can engage better through hands-on activities and group work.
- **Divergers** respond well to storytelling, discussions, and reflection exercises.

### 3. Teacher Training and Professional Development

Organize **workshops and in-service training programs** for teachers to help them understand the theory and practical application of learning styles. Emphasis should be placed on using **blended approaches** in classrooms with mixed learning preferences.

### 4. Improve Rural School Infrastructure and Pedagogy

To bridge the urban-rural performance gap, **rural schools must be equipped with improved infrastructure and training in student-centered pedagogy**. Learning aids, audiovisual tools, and project-based learning should be introduced to accommodate diverse learning styles.

### 5. Policy-Level Interventions

The Assam State Education Department should consider integrating **learning style-based instruction** into curriculum development and teacher education programs. Inclusion of modules on **cognitive diversity and adaptive teaching** in B.Ed. and D.El.Ed. programs can be a long-term solution.

### 6. Curriculum Flexibility and Innovation

Curricula should allow **flexibility in content delivery and assessment methods** to cater to diverse learners. For example, providing options such as oral presentations, written assignments, and experiential projects can help students demonstrate learning based on their style.

### 7. Encourage Collaborative Learning

Create opportunities for **peer learning and group projects** that combine learners of different styles. Collaborative tasks promote mutual learning and help students adapt to various modes of thinking and problem-solving.

### 8. Further Research and Monitoring

More region-specific studies are needed to explore learning styles across **tribal, linguistic, and socio-economic groups** in Assam. Additionally, **longitudinal studies** can assess how consistent learning style preferences influence performance over time.

## Conclusion

This study has revealed significant differences in learning styles and academic achievement between urban and rural high school students in Assam. Urban students predominantly preferred assimilating and converging styles, which aligned better with their resource-rich learning environments and resulted in higher academic performance. Conversely, rural students leaned toward accommodating and diverging styles, which were not effectively supported by the conventional teaching practices prevalent in their schools.

The findings underscore the importance of recognizing cognitive diversity in the classroom and tailoring instruction to students' preferred learning styles. Matching pedagogy to learners' cognitive strengths can lead to improved academic outcomes, greater student engagement, and a more inclusive learning environment. The study also highlights the need for teacher training, infrastructure development, and policy-level reforms, particularly in rural schools, to bridge the urban-rural achievement gap.

In the context of Assam's diverse educational landscape, adopting differentiated instructional approaches that cater to varied learning styles can promote educational equity and improve the overall quality of secondary education. The study calls for a paradigm shift from one-size-fits-all teaching to a learner-centered model grounded in psychological and pedagogical insights.

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