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# Tailored Learning: A Study Of The Relationship Between Learning Styles And Study Habits In Delhi Schools

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***Abstract***
*This study explores the connection between learning styles, study habits, and their influence on academic achievement. A random sample of 200 students from two government and two private schools in Delhi participated. The Study Habit Inventory by Mukhopadhyay and Sansanwal (1985), which evaluates nine components comprehension, concentration, task orientation, study sets, interaction, drilling, supports, recording, and language was used. Additionally, the Learning Styles Inventory by Dunn, Dunn, and Price (1989), a self-reported tool with 90 statements, assessed four dimensions: immediate environment (sound, light, temperature, seating), emotionality (motivation, persistence, responsibility), sociological preferences (solo or group learning), and physiological traits (auditory, verbal, tactile, kinaesthetic, sequential). Results revealed a significant positive correlation between learning styles and study habits among adolescents.*
***Keywords***: *Learning Styles, Study Habits, Academic Achievement, Adolescent Learners*

## INTRODUCTION

Learning styles describe the preferred ways individuals absorb, process, and retain information. A prominent framework, VARK by Neil Fleming (1987), classifies learners as visual, auditory, reading/writing, or kinaesthetic. Visual learners benefit from diagrams and visual aids, while auditory learners excel with discussions and recorded lectures. Reading/writing learners prefer text-based input, and kinaesthetic learners thrive with hands-on activities. Most individuals exhibit a blend of these preferences, making a multimodal study approach effective for enhancing comprehension and academic success. Tailoring study habits to align with one's learning style can optimize learning outcomes.

**Environmental Stimulus Dimension**

This dimension involves preferences for environmental factors like lighting, noise, temperature, and ambiance. Some students focus better in quiet, organized spaces like libraries, while others prefer dynamic settings like cafes. Identifying these preferences helps create a conducive study environment that boosts focus and productivity.

**Emotional Stimulus Dimension**

Emotional states significantly affect learning. Some students learn best when motivated and enthusiastic, thriving on positive reinforcement. Others require a calm, focused mindset. Recognizing emotional preferences enables students to cultivate optimal mental states for learning.

**Sociological Stimulus Dimension**

This dimension reflects preferences for social interaction during learning. Some students excel in collaborative group settings, benefiting from discussions and peer feedback, while others prefer solitary study for deeper focus. Understanding these preferences guides students toward suitable study methods.

**Physical Stimulus Dimension**

Physical engagement influences learning through tactile materials, movement, or hands-on activities. Some students benefit from experiments or manipulatives, while others prefer traditional methods like reading. Recognizing these preferences helps select study tools that enhance understanding.

Individuals often have preferences across multiple dimensions, with overlap between styles. Understanding these preferences empowers students to develop tailored study strategies that maximize learning efficiency.

Educators are encouraged to assess students' learning styles and adapt teaching methods accordingly. However, research on the efficacy of learning styles in education is mixed, with limited evidence supporting their direct impact on outcomes. Effective study habits, regardless of style, remain critical for academic success.

**Study Habits**

Study habits significantly shape academic performance. Inefficient habits, such as passive reading with distractions or last-minute cramming, lead to poor information retention and processing. Effective habits, like active engagement and consistent review, enhance learning efficiency. Studies suggest that habits like comprehension and concentration evolve with life stages, while others, like study sets and drilling, may stabilize earlier.

Research by Pashler et al. (2009) found limited evidence that tailoring instruction to learning styles improves outcomes, emphasizing evidence-based strategies instead. Willingham et al. (2015) noted that belief in learning styles did not correlate with better academic performance. Riener and Willingham (2010) found no retention benefits from matching instruction to preferred styles. Rogowsky et al. (2015) highlighted that strategies like summarizing and self-testing improve outcomes, underscoring the value of evidence-based study habits over style-specific approaches.

In summary, while learning styles may not directly drive academic success, effective study habits such as active engagement, retrieval practice, and elaboration are consistently linked to better performance.

## METHOD

A random sample of 200 students from two government and two private schools in Delhi was studied. The Study Habit Inventory (Mukhopadhyay & Sansanwal, 1985) assessed nine components: comprehension, concentration, task orientation, study sets, interaction, drilling, supports, recording, and language. The Learning Styles Inventory (Dunn, Dunn, & Price, 1989), a 90-statement self-report tool, evaluated four dimensions: environment, emotionality, sociological preferences, and physiological traits.

**Objectives**

- To compare study habits by gender.
- To examine learning styles by gender.
- To compare learning styles and study habits between government and private school students.
- To investigate the relationship between learning styles and study habits.

**Hypotheses**

- **$Ho_1$**: No significant difference in study habits between boys and girls.
- **$Ho_2$**: No significant difference in learning styles between boys and girls across environmental, emotional, sociological, and physical dimensions.
- **$Ho_3$**: No significant difference in learning styles between government and private school students.
- **$Ho_4$**: No significant difference in study habits between government and private school students.
- **$Ho_5$**: No significant relationship between learning styles and study habits.

## RESULT ANALYSIS

**Table 1: Mean, SD, df and significance of t-value of Boys and Girls on Study Habits**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Study Habits | Boys | 100 | 18.94 | 3.61 | 198 | 2.08 | Significant at 0.05 |
| | Girls | 100 | 21.04 | 4.24 | | | |

Table 1 shows boys' mean study habits score (18.94) is lower than girls' (21.04). The t-value (2.08) is significant and exceeds the critical value, rejecting $Ho_1$. Thus, boys and girls differ significantly in study habits.

**Table 2: Mean, SD, and Significance of t-value for Environmental Stimulus Dimension**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Environmental Stimulus | Boys | 100 | 20.19 | 3.62 | 198 | 2.02 | Significant at 0.05 |
| | Girls | 100 | 23.23 | 4.89 | | | |

Table 2 indicates girls (mean 23.23) outperform boys (20.19) in environmental stimulus. The t-value (2.02) is significant, showing a gender difference in this dimension.

**Table 3: Mean, SD, and Significance of t-value for Emotional Stimulus Dimension**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Emotional Stimulus | Boys | 100 | 27.45 | 3.98 | 198 | 3.12 | Significant at 0.01 |
| | Girls | 100 | 24.89 | 4.56 | | | |

Table 3 shows boys (mean 27.45) score higher than girls (24.89) in emotional stimulus. The t-value (3.12) is significant at 0.01, indicating a gender difference.

**Table 4: Mean, SD, and Significance of t-value for Sociological Stimulus Dimension**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Sociological Stimulus | Boys | 100 | 23.70 | 4.16 | 198 | 1.86 | Not Significant |
| | Girls | 100 | 25.80 | 4.82 | | | |

Table 4 reveals no significant difference in sociological stimulus (t-value 1.86), with girls (25.80) scoring slightly higher than boys (23.70).

**Table 5: Mean, SD, and Significance of t-value for Physical Stimulus Dimension**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Physical Stimulus | Boys | 100 | 28.96 | 4.49 | 198 | 3.98 | Significant at 0.01 |
| | Girls | 100 | 26.79 | 5.23 | | | |

Table 5 shows boys (mean 28.96) outperform girls (26.79) in physical stimulus. The t-value (3.98) is significant at 0.01, indicating a gender difference.

**Table 6: Mean, SD, and Significance of t-value for Total Learning Style**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Total Learning Style | Boys | 100 | 42.91 | 6.56 | 198 | 2.99 | Significant at 0.01 |
| | Girls | 100 | 36.93 | 5.89 | | | |

Table 6 indicates boys (mean 42.91) score higher than girls (36.93) in overall learning styles. The t-value (2.99) is significant at 0.01.

**Table 7: Mean, SD, and Significance of t-value for Learning Style (Government Vs. Private)**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Total Learning Style | Government | 100 | 22.03 | 3.56 | 198 | 2.59 | Significant at 0.01 Level |
| | Private | 100 | 27.06 | 3.90 | 198 | | |

Table 7 shows private school students (mean 27.06) outperform government school students (22.03) in learning styles. The t-value (2.59) is significant, rejecting $H0_3$.

**Table 8: Mean, SD, and Significance of t-value for Study Habits (Government vs. Private)**

| Variable | Compared Groups | N | Mean | S.D. | df | t-value | Significance Level |
|---|---|---|---|---|---|---|---|
| Study Habits | Government | 100 | 14.68 | 1.75 | 198 | 1.99 | Significant at 0.05 Level |
| | Private | 100 | 17.56 | 4.98 | | | |

Table 8 indicates private school students (mean 17.56) outperform government school students (14.68) in study habits. The t-value (1.99) is significant, rejecting $H0_4$.

**Table 9: Relationship Between Study Habits and Learning Styles**

| Variable | Coefficient of Correlation | Level of Significance |
|---|---|---|
| Study Habits & Learning Style | 0.68 | Significant |

Table 9 shows a positive correlation (0.68) between study habits and learning styles, significant at 0.05, rejecting $H0_5$.

## CONCLUSIONS

This study highlights significant relationships between learning styles, study habits, and academic performance, particularly in online synchronous settings. Adolescents often exhibit assimilator traits in such environments. The strong correlation between study habits and learning styles suggests that tailored strategies can enhance learning. Instructors should support students by providing clear syllabi and course records, especially in online settings where note-taking is challenging. While home environment and note-taking showed no significant correlation with achievement, structured support can improve outcomes.

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