Research Article

Learning Style in relation to Test Anxiety among XI Standard Students

Dr. Sr. S. Nirmala Grace Rani

Assistant Professor of Computer Science, Stella Matutina College of Education, Chennai, TN, India.

ORCID: https://orcid.org/0009-0003-3473-0079

Abstract

This study investigates the connection between XI Standard Students' learning styles and test anxiety. With a growing recognition of how individual differences impact educational outcomes, understanding this dynamic is crucial for educators and policymakers. The research employed a mixed-methods approach, utilizing surveys to assess students' preferred Learning Styles and standardized measures to evaluate Test Anxiety levels. The findings indicate significant correlations between certain Learning Styles specifically Visual and Kinesthetic learners and elevated levels of Test Anxiety. This paper discusses the implications for teaching strategies and the need for tailored interventions to support students in managing anxiety and optimizing their learning experiences. The sample for this study comprised 300 XI standard students. The study revealed no significant difference in learning style with respect Gender and Stream of Study. Similarly, there was no significant difference in Test Anxiety with respect to Gender and Stream of Study.

***Keywords*:** Learning Styles, Test Anxiety, Student Performance, Academic Stress, Individual Differences, Anxiety Management

Introduction

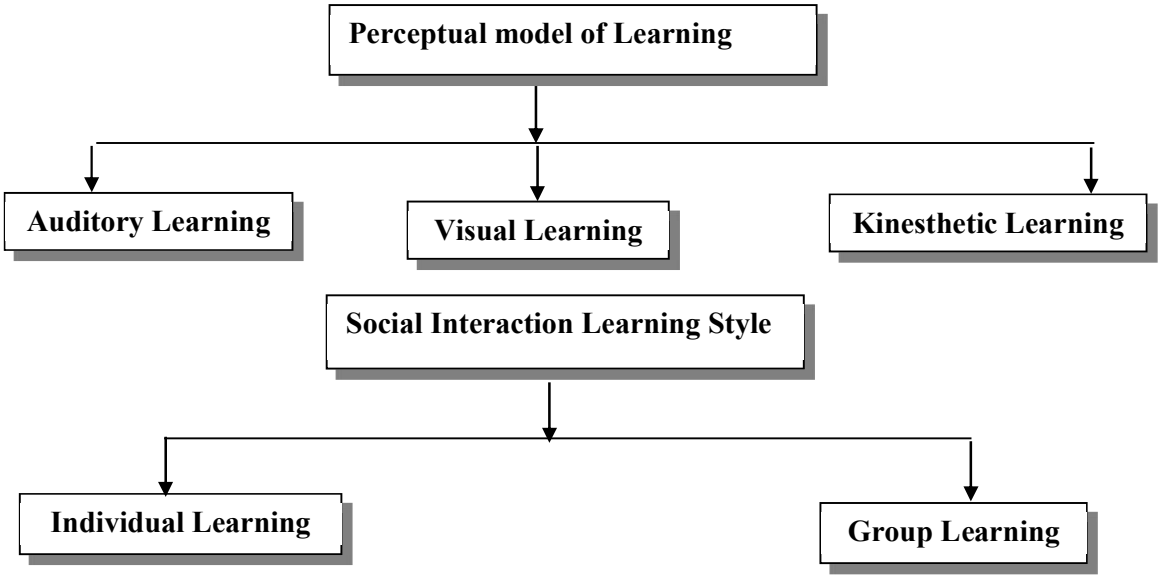
Test Anxiety is a prevalent issue among students, particularly during critical academic transitions such as the XI Standard Students. As learners prepare for higher-stakes examinations, the pressure can exacerbate anxiety, potentially hindering performance and overall well-being. Concurrently, students exhibit diverse learning styles - Auditory, Visual, and Kinesthetic shaping their academic engagement and coping mechanisms. The hypothesis of this study is that certain preferences may affect students' experiences of anxiety during assessments. The study intends to explore the relationship between these learning styles and test anxiety.

By identifying these relationships, the research seeks to inform educators on developing effective teaching strategies that cater to varying learning preferences, thereby fostering a more supportive learning environment.

Types of Learning Style

The two types of Learning Style are perceptual learning and social interaction learning. The perceptual learning style is inclusive of the Dimensions namely Auditory, Visual, Kinesthetic and the social interaction learning style is inclusive of Dimensions namely individual learning and Group learning.

Figure: 1



Importance of Learning Style

Learning styles are significant because they represent the distinctiveness of each person's personality and are an educationally relevant expression of that uniqueness, which should be valued. The method used to instruct students in developing specific thought patterns, can help the students to expand their styles of approaching problems. Learning Styles, sometimes called cognitive style is the actual way in which an individual accepts and processes information while learning, prior experience often helps to shape the learning style used by the learner.

Test Anxiety

Test anxiety is a psychological disorder that causes extreme distress and anxiety in exam situations. While mild anxiety can help improve focus and alertness, excessive anxiety can hinder concentration and memory, negatively affecting test performance. Many students experience test anxiety, which can become a persistent issue, impacting their academic performance and well-being. It often arises in challenging or unfamiliar situations, with a strong fear of failure being a key factor.

Test anxiety is characterized by reactions specific to testing environments, particularly when others are observing or evaluating. Symptoms include tension, self-deprecating thoughts, worry, dread, and physiological overarousal, making students feel stressed and uncomfortable before or during exams. Test anxiety is also known as situational, evaluation, or anticipatory anxiety.

While anxiety can be beneficial to maintain mental and physical alertness, excessive levels can have detrimental effects. The media has reported alarming cases of child suicides and attempted suicides, particularly among students aged 14 to 17, linked to exam anxiety or poor performance. This highlights the severe psychological impact test anxiety can have on young students, making it crucial for educators, parents, and institutions to address and manage this condition to prevent tragic outcomes.

Need and Significance of the Study

- **Learning styles** impact how students absorb, process, and retain information.
- **Tailored educational approaches** based on learning styles can make learning more effective and engaging.
- **Test anxiety** is a common issue affecting academic performance, mental health, and self-confidence.
- XI standard students face **increased academic pressures**, making them more vulnerable to test anxiety.
- Differentiated instruction can **reduce test anxiety** by catering to various learning styles.
- Understanding learning styles and managing anxiety helps students **succeed academically** and boosts confidence for future challenges.

Review of Related Literature

Learning Style - Sangeetha (2012)

Objective -To examine the relationship between learning styles and academic performance among XI standard students.

Tools -The primary tool used for data collection was the **Perceptual Learning Style Inventory** developed by J.M. Reid.

Sample Size-The study included a sample of **400 XI standard students** drawn from **9 different schools**, both government and private.

Methodology -A quantitative research methodology was employed. The sample consisted of students from various streams and types of schools. Data was collected using the learning style inventory, and statistical analysis was conducted to assess the relationship between learning styles and academic performance.

Findings- There was **no significant difference** in learning styles based on:

- ✓ **Gender**
- ✓ **Stream of study**
- ✓ **Type of school**

These findings suggest that learning styles among the XI standard students are consistent across different demographic categories.

Wong et. al., (2011)

Objective -To investigate the learning strategies and styles of successful versus unsuccessful language learners among undergraduate students in Hong Kong.

Tools - An **online survey** was utilized to gather data on:

- ✓ Preferred learning strategies
- ✓ Patterns of language use and practice
- ✓ Other related topics relevant to language learning

Sample Size- The study involved **110 Hong Kong undergraduate university students**.

Methodology -Participants were classified as "less effective" or "more effective" language learners based on their performance on a public English examination taken at the end of secondary school. The online survey was administered to collect quantitative data regarding their learning preferences and practices.

Findings - The study revealed significant differences between successful and unsuccessful language learners in terms of:

- **Language use patterns**
- **Learning styles**
- **Preferred learning strategies**

The findings suggest that effective language learners employ distinct strategies and styles that contribute to their success, highlighting important implications for language teaching and learning practices.

Test Anxiety- Kalaimani (2014)

Objective: To study the relationship between study habits and test anxiety among IX standard students and examine how factors like gender, type of school, and monthly income influence test anxiety.

Tools: **Test anxiety scale**: SLAC Counsellor and SLAC Lab were used to collect data on students' test anxiety.

Sample - Size: 300 students from various Government and Private schools in Villupuram District, Tamil Nadu, India.

Methodology:

- **Sample selection**: 300 IX standard students were selected from both government and private schools.
- **Data collection tools**: SLAC Counselor and SLAC Lab were used to measure the test anxiety levels among students.
- **Analysis**: Data was analyzed to determine whether there were any significant differences in test anxiety based on gender, type of school, and monthly income. Various statistical methods, like t-tests or ANOVA, were likely employed to test the significance of differences between groups.

Findings:

- There is a **significant difference in test anxiety** with respect to **gender**.

- There is a **significant difference in test anxiety** based on the **type of school** (Government vs. Private).
- There is **no significant difference in test anxiety** with respect to **monthly income**.

These findings suggest that while gender and school type are important factors affecting test anxiety, family income level does not play a significant role in this context.

Roy and Smritikana (2013)

Objective:

To examine the impact of exam anxiety on students' academic performance and investigate the relationship between test anxiety levels and academic achievement in Class XI students.

Tools:

- **Test Anxiety Measurement**: Sarason's Test Anxiety Scale for Children (TASC) was used to assess the students' level of test anxiety.
- **Academic Achievement**: Measured as the percentage of total marks that students received in their board exams.

Sample Size:

100 students (50 boys and 50 girls) enrolled in Class XI at various high schools in Ranchi town. The students were selected randomly.

Methodology:

- **Sample selection**: 100 students, evenly divided between boys and girls, were chosen randomly from high schools in Ranchi town.
- **Grouping**: Based on their scores on the Test Anxiety Scale (TASC), students were divided into three categories: high anxiety, moderate anxiety, and low anxiety.
- **Data Collection**:
  - ✓ **Test Anxiety**: Measured through TASC.
  - ✓ **Academic Achievement**: Calculated using students' performance in board exams, represented as a percentage of their total marks.
- **Statistical Analysis**: Comparisons were made between the academic performance of the three anxiety groups (high, moderate, low) to assess the impact of anxiety levels on academic achievement.

Findings:

- The **academic achievement** of students differed significantly across the high, moderate, and low-test anxiety groups.
- **Higher test anxiety** was associated with **lower academic performance**, while **low anxiety** was linked to **better performance**.
- A **higher percentage of male students** reported having **moderate levels of test anxiety** compared to females.

These findings indicate a clear relationship between test anxiety and academic performance, with moderate levels of anxiety being more prevalent among male students.

Objective of the Study

To examine the difference in the Learning Style and Test Anxiety of XI Standard Student owing to the difference in Gender and Stream of Study.

Hypotheses

- There is no significant difference in their Learning Style owing to the differences in Gender.
- There is no significant difference in their Learning Style owing to the differences in Stream of Study.
- There is no significant difference in their Test Anxiety owing to the differences in Gender.
- There is no significant difference in their Text Anxiety owing to the differences in Stream of Study.

Tools used for the study

The data for the current study was gathered using the following Inventory

- The Inventory of Perceptual Learning Styles by J.M. Reid.
- Test Anxiety scale collected from Student Learning Assistance Center (SLAC) counsellor and Student Learning Assistance Centre (SLAC) Lab.
- Personal data sheet prepared by the investigator.

Methodology

The current study is a descriptive study on "Learning Style in relation to Test Anxiety among XI Standard Students in Chennai" with the variable of Gender and Stream of Study in Chennai district.

The Learning style inventory consist of 30 statements top assert the differential preferences for the five modes of learning (5 statements each for auditory and visual modes, 7 statement each for kinaesthetic / tactile and individual Learning modes, 6 for group learning modes); the details of which are presented below showing the items under different perceptual modes of learning and social interaction learning styles.

Table: 1

Category of Learning and Item Numbers

Category of Learning Style	Item Numbers
Auditory	1,7,9,16,19
Visual	6,10,12,23,28
Kinesthetic / tactile	2,8,11,14,15,21,24
Individual learning	13,17,25,26,27,29,30
Group learning	3,4,5,18,20,22

Analysis and Interpretation of the Data

Hypothesis 1

There is no significant difference in their Learning Style owing to the differences in Gender.

Table: 2

Table showing the difference in Learning Style of XI Standard Students owing to Gender

Variable	Gender	N	Mean	Standard Deviation	Degrees of freedom	t	Significant level
Learning Style	Boys	150	121.49	14.423	298	.286	.775
	Girls	150	121.95	13.421			

From the above table the significant value 0.775 is greater than 0.05 which is not significant at 5% level. So, the null hypothesis is accepted. Hence there is no significant difference in Learning style with respect Gender.

Hypothesis 2

There is no significant difference in their Learning Style owing to the differences in Stream of Study.

Table: 3

Table showing the difference in Learning Style of XI Standard Students owing to Stream of Study

Variable	Stream of Study	N	Mean	Standard Deviation	Degrees of freedom	t	Significant level
Learning style	Arts	150	120.30	15.822	298	1.770	.078
	Science	150	123.13	11.570			

From the above table the significant value 0.078 is greater than 0.05 which is not significant at 5% level. So, the null hypothesis is accepted. Hence there is no significant difference in Learning style with respect to Stream of Study.

Hypothesis 3

There is no significant difference in their Test Anxiety owing to the differences in Gender.

Table: 4

Table showing the difference in Test Anxiety of XI Standard Students owing to Gender

Variable	Gender	N	Mean	Standard Deviation	Degrees of freedom	t	Significant level
Test Anxiety	Boys	150	127.71	30.226	298	0.723	0.470
	Girls	150	125.48	22.551			

From the above table the significant value 0.470 is greater than 0.05 which is not significant at 5% level. So, the null hypothesis is accepted. Hence there is no significant difference in Test Anxiety with respect to Gender.

Hypothesis 4

There is no significant difference in Test Anxiety of XI Standard Students owing to the differences in Stream of Study.

Table: 5

Table showing the difference in Test Anxiety of XI Standard Students owing to Stream of Study

Variable	Stream of Study	N	Mean	Standard Deviation	Degrees of freedom	t	Significant level
Test Anxiety	Arts	150	126.28	27.864	298	.203	.839
	Science	150	126.91	25.457			

From the above table the significant value 0.839 is greater than 0.05 which is not significant at 5% level. So, the null hypothesis is accepted. Hence there is no significant difference in Test Anxiety with respect to Stream of Study.

Major Finding of the Study

- There is no significant difference in learning style with respect Gender.
- There is no significant difference in learning style with respect to Stream of Study.
- There is no significant difference in Test Anxiety with respect to Gender.
- There is no significant difference in Test Anxiety with respect to Stream of Study.

Education Implications of Present Study

- It is the goal of a teacher to establish a rapport with their students so that they will feel at ease approaching them for assistance.
- It is important to encourage friendly relationships between teachers and students as well as between students.
- It is recommended that educational institutions and administrative bodies support students in utilising the available learning resources to enhance their learning preferences.
- Schools need to develop a profile of each students learning style.

Conclusion

The findings emphasize the strong link between learning styles and test anxiety in XI standard students, particularly among visual and kinesthetic learners. This suggests a misalignment between their learning preferences and conventional testing methods. To address this, educators should implement differentiated teaching strategies that cater to diverse learning styles. Such an approach can reduce anxiety and improve academic outcomes. Future research should explore targeted interventions, promoting an inclusive learning environment that helps students manage anxiety and reach their potential.

References

Abbas, M., Niroob, Z., & Kazemianc, E. (2013). *The relationship between test anxiety and listening comprehension among EFL students of Kerman University* (Ph.D. thesis). Kerman University.

Kalaimani. (2014). *Study habit and test anxiety among IX standard students* (Unpublished master's thesis). Tamil Nadu Teacher Education University, Chennai.

Sangeetha. (2012). *Learning styles in relation to academic achievement among the XI standard students* (Unpublished master's thesis). Tamil Nadu Teacher Education University, Chennai.

Journal Articles:

Agarwal, S. C. (1987). Learning style among creative students. In *Cognitive theories* (pp. 123-134). Central Publishing House.

Connors, A., & Symes, D. (2010). Relationship between test anxiety and examination performance. *British Journal of Educational Psychology*, *30*(1), 22-35.

Roy, B., & Ghosh, S. (2013). Test anxiety and academic performance of school students. *International Journal of Educational Research*, *2*(1), 1-10. https://doi.org/10.2277/ijeres.2277