

Learning Styles across Gender and their Impact on Academic Achievement among Prospective Teachers

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Abstract

The present study aims to study the impact of learning style with respect to Gender on academic achievement of prospective teachers. For this purpose, 150 samples were selected randomly from the College of Education in Madurai District. For this study, the Learning Styles Scale was developed and standardised by the investigator, and semester marks were taken as academic achievement. Descriptive statistical analysis was applied to find the mean score and standard deviation, and a p-value less than or equal to 0.05 was considered significant. A correlation analysis was used to find out the relationship between learning styles across Gender and academic achievement. It was found that there is a significant difference between male and female in Learning style and similarly, there is a significant difference in the dimension of Learning styles (Auditory and Kinesthetic) between Male and Female of prospective teachers. It also be found that, there is no significant difference in the dimension of Learning Style (Visual & Read/Write) between Male and Female of prospective teachers. Moreover, it was also found that there is weak positive relationship between learning style across gender and academic achievement. The study recommends that learning styles be cultivated in their academic activities to become competent and make wise decisions in the future.

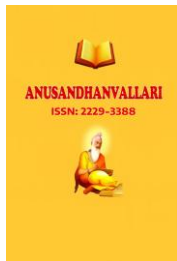
Keywords: Learning style, Gender, Academic Achievement.

Introduction:

Education in the 21st century emphasizes learner-centred approaches that recognize individual differences in the way students acquire, process, and retain information. Among these differences, *learning style* has gained significant attention in educational research. Learning styles refer to the preferred ways in which individuals engage with, understand, and internalize new knowledge. These may include visual, auditory, kinesthetics, reflective, or analytical modes of learning. Understanding learning styles is particularly important in teacher education, as prospective teachers not only learn through these styles but also carry these preferences into their future classrooms.

Academic achievement, on the other hand, remains a key indicator of educational success and reflects the extent to which learners have mastered academic content and skills. Researchers have increasingly explored how personal characteristics such as learning styles influence academic performance. When instruction aligns with learners' preferred styles, it may enhance motivation, comprehension, and retention, thereby improving achievement levels.

Gender is another significant variable in educational research. Studies suggest that males and females may differ in cognitive preferences, learning approaches, classroom interaction patterns, and academic engagement. These differences could influence the development of particular learning styles and, in turn, impact academic performance. However, findings in this area remain inconsistent, especially among prospective teachers who undergo professional training that shapes both their learning habits and teaching perspectives.



Prospective teachers represent a unique group of learners because they are simultaneously students and future educators. Their learning styles not only affect their academic achievement during training but may also shape their instructional strategies in professional practice. Therefore, examining learning styles across gender among prospective teachers is crucial for improving teacher education programmes and promoting effective pedagogy.

In this context, the present study adopts a survey approach to investigate the distribution of learning styles among male and female prospective teachers and to examine how these styles influence their academic achievement. The study aims to contribute to the understanding of individual and gender-based differences in learning and to provide insights for designing responsive teacher education practices.

Need and Importance of the Study:

In contemporary teacher education, enhancing the academic achievement and professional competence of prospective teachers is a major objective. Prospective teachers exhibit diverse learning styles that influence how they process information and perform academically. However, instructional practices in many teacher education institutions continue to rely on uniform teaching methods, often neglecting individual variations in learning styles.

Gender is a significant factor that may influence learning style preferences and academic achievement, though existing research presents inconsistent findings, particularly in teacher education. There is a need to examine the combined influence of learning styles and gender on academic achievement among prospective teachers through systematic investigation.

The present study is significant as it explores the influence of learning styles across gender on the academic achievement of prospective teachers using a survey approach. The findings will provide empirical insights into learner diversity and support the development of gender-responsive, learner-centred instructional strategies, thereby enhancing academic achievement and inclusive pedagogical practices in teacher education.

Objectives:

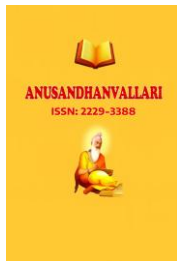
- To identify the predominant learning styles among prospective teachers.
- To examine the distribution of learning styles across gender among prospective teachers.
- To determine the impact of learning styles on the academic achievement of prospective teachers.
- To analyse the relationship between learning styles across gender and academic achievement among prospective teachers.

Hypothesis:

Ho1: There is no significant difference in learning style with respect to gender.

Ho2: There is significant difference in four different learning style among prospective teachers with respect to gender.

Ho3: There is no significant relationship between in learning style across gender and academic achievement among prospective teachers.



Review of the Related Literature:

Rai, Amrit Kumar (2022) conducted a study on the relationship between learning styles, intelligence, and academic achievement among indigenous Chepang high school students. The study employed visual, auditory, and kinesthetic learning style dimensions to examine students' learning preferences. The findings revealed significant differences in visual and auditory learning styles between public and private school students, while no significant differences were observed with respect to gender or grade level. The study also identified significant district wise variations in learning style preferences. Visual learning emerged as the most preferred learning style among both students and teachers. Although learning styles did not show a consistent relationship with academic achievement across all groups, significant associations were found among private school students, male students, and Grade 10 students, suggesting that contextual factors influence the relationship between learning styles and academic achievement.

Dr. Manjula Patil(2022) was conducted a study on learning style in relation to academic achievement of secondary school students. The main aim of the study was to find the relationship of learning style with academic achievement of secondary school students. The participants of the study were 100 students from different schools. The tool used was Kolb's Learning Inventory by David Kolb. The results reveal that there is no significant difference in the learning styles of government and private school students at high school level and there is no significant difference in the learning styles among girls and boys at high school level.

Debanjana Nag (2023) conducted a Research on the Effect of Different Learning Styles on Different Student-Groups. The study indicates that learning styles differ significantly across academic streams, with arts and management students showing notable variations in their learning style preferences. However, no significant gender differences were observed in overall learning styles among students. Notably, the visual learning style demonstrated significant variation across both streams and gender, highlighting the need for further large-scale research to better understand discipline- and gender-specific learning preferences.

Dr. Muhammad Aminand et al., (2024) investigate the Effects of different learning styles on students' achievement. This study examined the effect of learning styles on students' academic achievement using Kolb's learning style framework. Employing a true experimental, post-test-only control group design with Grade VII students, the study found no significant differences in achievement among different learning styles within either the experimental or control groups. However, students taught through learning style-based differentiated instruction performed better overall than those taught through traditional methods. The findings suggest that while learning styles alone may not directly influence achievement, instruction aligned with learning styles can enhance students' academic performance, warranting further research in this area.

Methodology of the Study:

The investigator adopted Survey method for the present study.

Sample:

The investigator had used simple random sampling technique for selecting a sample of 150 Prospective teachers from Government, Government-Aided and Self-Finance B.Ed., College, in Madurai District.

Tool:

Learning Style Scale was developed by the Investigator which consists of 40 items under dimensions of learning style and it was standardized through a pilot study.

Data Analysis:

HYPOTHESIS :1

There is no significant difference in learning style with respect to gender.

Table -1: Learning style of prospective Teacher with respect to Gender

Gender	N	Mean	SD	p-value
Male	75	117	6.33	< 0.001
Female	75	130	8.01	

Significance at 0.05 level

From the above table 1, it is inferred that calculated 'p' value (0.001) less than 0.05. Since $p < 0.05$ the hypothesis H_0 is rejected. From this it is concluded that there is a significant difference in Learning style of Prospective Teacher with respect to gender.

HYPOTHESIS :2

There is significant difference in four different learning style among prospective teachers with respect to gender.

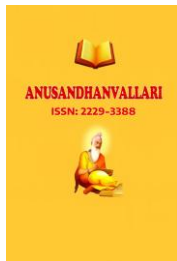
Table -2: Learning style of prospective Teacher with respect to Gender

Learning Style	Gender	N	Mean	SD	p-value
Visual	Male	75	27.1	4.79	0.043
	Female	75	31.7	4.67	
Auditory	Male	75	27.1	5.57	0.149
	Female	75	31.7	2.94	
Read/Write	Male	75	27.6	2.99	< 0.001
	Female	75	33.6	2.55	
Kinesthetics	Male	75	31.0	4.05	0.803
	Female	75	31.0	2.94	

***Significance at 0.05 level**

From the above table 2, it is inferred that calculated 'p' value (0.043) in Visual style is less than table value at 0.05 level. Hence the hypothesis is **rejected** in relation to the Visual style. In Auditory style calculated 'p' value (0.149) is greater than table value at 0.05 level. Hence the hypothesis is **failed to reject** in relation to the Auditory style. In Read/Write style calculated 'p' value (0.001) is less than table value at 0.05 level. Hence the hypothesis is **rejected** in relation to the Read/Write style. In Kinesthetics style calculated 'p' value (0.803) is greater than table value at 0.05 level. Hence the hypothesis is **failed to reject** in relation to the Kinesthetic style.

From this, it is concluded that there is a **no significant difference** in Visual and Read/ Write style of Prospective Teacher with respect to gender and there is a **significant difference** in Auditory and Kinesthetic style of Prospective Teacher with respect to gender.



HYPOTHESIS :3

Ho3: There is no significant relationship between in learning style across gender and academic achievement among prospective teachers.

Table -3: Relationship between in learning style across gender and Academic Achievement

S.No.,	Variable	r-value	p-value	Significant
1	Learning style of Gender	0.190	0.421	Positively correlated but not statistically significant
2	Academic Achievement			

***Significance at 0.05 level**

From the above table 3, it is inferred that, the correlation shows a **weak positive relationship** between learning style across gender and academic achievement among prospective teachers ($r = 0.190$). However, the obtained p-value ($p = 0.421$) is greater than the 0.05 level of significance, indicating that the relationship is **not statistically significant**. Hence, the stated null hypothesis, is **accepted**.

Discussion:

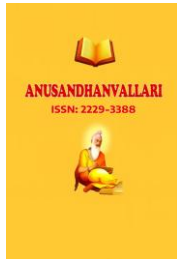
The result of this study shows that significant difference in overall learning styles of prospective teachers with respect to gender. This suggests that male and female prospective teachers differ in the way they prefer to perceive, process, and engage with learning experiences. Further analysis in specific dimensions of learning styles showed no significant difference in Visual and Read/Write learning styles across gender. However, significant differences were observed in Auditory and Kinesthetic learning styles, indicating that gender plays a role in preferences for learning through listening and hands-on activities. In addition, the correlation analysis revealed a weak positive relationship between learning style across gender and academic achievement. This indicates that learning styles across gender do not significantly predict academic achievement among prospective teachers.

Conclusion:

Overall, the findings suggest that while recognizing gender-based differences in learning styles is important for effective instructional planning, learning styles alone should not be considered a strong predictor of academic achievement. Teacher education programmes should therefore adopt inclusive and flexible pedagogical strategies that cater to diverse learning preferences, ensuring meaningful learning experiences for all prospective teachers.

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