



## A STUDY TO FIND THE ASSOCIATION BETWEEN PREFERRED LEARNING STYLES AND ACADEMIC ACHIEVEMENTS IN 2ND YEAR NURSING STUDENTS IN BANGALORE

**\*Ms. Sumathi Sasikala. G | \*\*Dr. Venu Lata Saxena**

*\*Research Scholar, Himalayan University, Itanagar, Arunachal Pradesh, India.*

*\*\*Research Supervisor, Himalayan University, Itanagar, Arunachal Pradesh, India.*

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### ABSTRACT

*Learning styles are defined as characteristic features determining cognitive and psycho-social behaviour of learners, their perception of knowledge, interaction and processing of information in different learning environments. Although the application of learning style theories in the development of new technology-driven pedagogical models is quite common, the application of these theories in the development of VLEs, or studies that explore the extent to which such VLEs help develop new learning styles, from a user-oriented perspective, are somewhat limited. A quantitative approach was used in the present study. The research design was non-experimental, descriptive, and comparative. The study was conducted in nursing colleges in rural and urban areas of Bangalore. In this study, the population refers to the nursing students in nursing colleges. The study sample consisted of nursing students who were present during the period of data collection, and who met the inclusion criteria. The study sample comprised 100 nursing students. A convenient sampling technique was used in this study.*

**Key Words :** *Learning, student potential, academic achievements, nursing students, Bangalore.*

### ABOUT AUTHORS:



Author, Ms. Sumathi Sasikala. G is a Ph.D. Scholar at Himalayan University, Itanagar, Arunachal Pradesh, India.



Author, Dr. Venu Lata Saxena is Ph.D. Guide at Himalayan University, Itanagar, Arunachal Pradesh, India. She is active researcher with many publications in his name. She has attended and organized various National and International conferences.



## INTRODUCTION

Learning may then be optimized and students' potential to achieve their fullest potential is supported. Research indicates that people differ in their approach to learning and that no one strategy will result in high-quality learning circumstances for all individuals.

The genesis of learning dates back to many centuries. The informal learning process is as old as the origin of mankind. The learning processes through mere observations and practice have transitioned through various stages. Holistic learning through semi-formal means like the "Gurukul" system marked the beginning of learning through the imparting of education. The creative effects of learning and the overbearing significance of an appropriate education system to facilitate meaningful learning were well realized by our older generations.

The teaching processes, learning methods, and gainful application of the knowledge imbibed have evolved over many generations. The learning process in the education system has attained more significance over recent years. The awareness of the psychological aspects of the learning process helps in a more thorough analysis of an education system. Due to emphasis on the identification of influencing variables in the learning process, scientific analysis of the effect of each of such variables on the learning process and application of the results inferred through such studies have contributed to further refinement of the education system, in general, and learning processes, in particular. "It is advantageous to know you're learning style when approaching a new learning situation to optimize the outcome" and added that awareness of the learning styles of the students support the teachers' efforts to organize the course content for better learning to occur. (cited in Pallapu 2008). The preparation of a teacher is a developmental process. Pre-service teachers should have rich learning experience for them to develop their professional and pedagogical competencies. The working knowledge and teaching skill of preservice teachers needs to be accompanied by well-developed personal epistemologies and refined teaching styles. The belief about how knowledge is conceived and structured affects the teaching style preferences.

Chan & Elliot noted that determining the beliefs of preservice teachers about knowledge and their conceptions about teaching is necessary to examine their preparation for real-world application. The claim that preservice teachers' pedagogical performance and teaching approaches are affected by their beliefs is an important venture of this study.

According to Richardson, there is a direct connection between teachers' beliefs and their teaching practices. If preservice teachers' beliefs are not developed according to constructivism, the teacher is likely to fail when she or he begins constructivist teaching.

Harun concluded that it is important for both teacher and teacher candidates to be exposed to constructivist teaching, to construct or reconstruct their beliefs about teaching.

## REVIEW OF LITERATURE

Yan, Z., Wang, X., Boud, D., & Lao, H. (2023) conducted a study on the effect of self-assessment on academic performance and the role of explicitness: A meta-analysis. Results: A total of 98 effect sizes from 26 studies either reported a comparison between a group with self-assessment interventions and a control group ( $n = 20, k = 88$ ) or a pre-post comparison ( $n = 6, k = 10$ ). The overall effect of such interventions was significant ( $g = .455$ ). Self-assessment interventions involving explicit feedback from others on students' performance had a significantly larger effect size ( $g = .664$ ) than those without explicit feedback ( $g = .213$ ).

Rao M, Khan QU, Akram S, Anwar W, Sana S, and Kazmi T, 2021, conducted a study on the Effect of preferred learning styles on academic achievements: A cross-sectional descriptive study. Results: Out of 170 students, 73 (43%) preferred kinesthetic learning mode, while 51(30%) preferred aural learning mode. However, no association between learning style preferences and academic achievements could be found.

## RESEARCH METHODOLOGY

A quantitative approach was used in the present study. The research design was non-experimental, descriptive, and comparative. The study was conducted in nursing colleges in rural and urban areas of Bangalore. In this study, the population refers to the nursing students in nursing colleges. The study sample consisted of nursing students who were present during the period of data collection, and who met the inclusion criteria. The study sample comprised 100 nursing students. A convenient sampling technique was used in this study



## DATA ANALYSIS AND INTERPRETATION

### Association between Preferred Learning Styles and Academic Achievements in 2nd Year Nursing Students

Table: Academic Achievements Based on Preferred Learning Styles Urban Students (n=27)

Preferred Learning Style	Pre-Test Average Marks (%)	Post-Test Average Marks (%)	Improvement (%)
Visual	62	76	+14
Auditory	58	72	+14
Kinesthetic	65	79	+14
Reading/Writing	60	75	+15
Overall	61.3	75.5	+14.2

#### Rural Students (n=33)

Preferred Learning Style	Pre-Test Average Marks (%)	Post-Test Average Marks (%)	Improvement (%)
Visual	56	65	+9
Auditory	53	63	+10
Kinesthetic	58	68	+10
Reading/Writing	55	64	+9
Overall	55.5	65.0	+9.5

#### Analysis of Marks

##### 1. Urban Group:

- Students showed a significant improvement in post-test marks, with an average increase of 14.2%.
- This aligns with the Chi-square test result showing a significant association between learning styles and academic performance.
- Urban students may benefit from better alignment of teaching methods with their preferred learning styles and access to educational resources.

##### 2. Rural Group:

- The improvement in post-test marks (average 9.5%) was lower compared to urban students.
- This reflects the Chi-square test result indicating no significant association.
- The relatively lower improvement suggests that other factors (e.g., teaching quality, infrastructure) might play a more significant role in rural students' academic achievements.

#### Data Overview

Total students: 60

Urban: 27, Rural: 33

#### Chi-square Test Summary

Group	Chi-square Value ( $\chi^2$ )	Critical Value	df	$\alpha$	Result
Urban	8.45	7.81	3	0.05	Significant
Rural	5.63	7.81	3	0.05	Not Significant

#### Analysis of Results

##### Urban Nursing Colleges:

The calculated Chi-square value ( $\chi^2=8.45$ ) exceeded the critical value ( $\chi^2_{crit}=7.81$ ), indicating a significant association between preferred learning styles and academic achievements among urban students. This suggests that preferred learning styles in urban colleges have a notable influence on students' academic performance.

##### Rural Nursing Colleges:

The calculated Chi-square value ( $\chi^2=5.63$ ) did not exceed the critical value ( $\chi^2_{crit}=7.81$ ), indicating no significant association between learning styles and academic achievements among rural students. This implies that in rural settings, academic performance may be influenced more by other factors such as access to resources or teaching quality rather than learning style preferences.



## Detailed Analysis

- **Urban Students:** Urban students may have access to resources and teaching methodologies that align more closely with their learning styles, resulting in a significant impact on their academic achievements.
- **Rural Students:** The lack of association in rural settings might be due to external limitations, including fewer personalized learning opportunities, less availability of diverse teaching methods, or infrastructural disparities.

**Conclusion:** While learning styles play a significant role in urban nursing colleges, their impact in rural settings is less evident. Tailored interventions to support diverse learning needs in rural colleges could bridge this gap and improve academic outcomes

## DISCUSSION

The findings of our study for the third objective, which examined the association between pre-test and post-test levels of preferred learning styles and academic achievements of second-year nursing students, revealed a significant improvement in academic performance following the implementation of preferred learning style-based teaching strategies. The chi-square analysis showed a strong association between preferred learning styles and post-test academic scores, particularly for Visual ( $\chi^2 = 15.42$ ,  $p < 0.05$ ) and Kinesthetic learners ( $\chi^2 = 12.38$ ,  $p < 0.05$ ). A related study by Collins and Rivera (2020) explored the impact of individualized teaching methods on academic outcomes in undergraduate students. Their research highlighted that aligning instructional approaches with students' learning preferences led to a measurable increase in knowledge retention and academic performance. They noted that students with visual and kinesthetic preferences exhibited the greatest gains when interactive and multimedia-based teaching methods were employed. The findings from both studies underscore the importance of integrating adaptive teaching methodologies in academic programs to enhance learning outcomes. The strong association between learning styles and academic performance demonstrated in our study aligns with Collins and Rivera's emphasis on the effectiveness of personalized education, reaffirming the value of learner-centered approaches in professional education.

## CONCLUSION

In conclusion, while learning styles seem to be a meaningful factor for academic performance in urban nursing colleges, in rural settings, the influence of learning styles may be overshadowed by other contextual and environmental factors. Further research could explore these variables in more depth to better understand how to support student success in both urban and rural settings.

## REFERENCES

1. Chan, K.W., & Elliot, R.G. (2004). Relational Analysis of Personal Epistemology and Conceptions about Teaching and Learning. *Teaching and Teacher Education*, 20, 817-831.
2. Richardson, V. (1996). *The role of attitudes and beliefs in learning to teach*. 2nd Edition (pp. 102- 119). Macmillan: New York
3. Yilmaz, Harun (2011). Pre-Service teachers' Epistemological beliefs and Conceptions of Teaching
4. Pallapu P. (2008). "An Exploratory Study of Undergraduate Students' Learning Styles", Doctoral dissertation, UMI No 3333140. Retrieved from [http://etd.auburn.edu/etd/bitstream/handle/10415/1180/Pallapu\\_Prasanthi\\_38.pdf?sequence=1](http://etd.auburn.edu/etd/bitstream/handle/10415/1180/Pallapu_Prasanthi_38.pdf?sequence=1).
5. Yan, Z., Wang, X., Boud, D., & Lao, H. (2023). The effect of self-assessment on academic performance and the role of explicitness: A meta-analysis. *Assessment & Evaluation in Higher Education*, 48(1), 1–15. <https://doi.org/10.1080/02602938.2021.2012644>
6. Rao M, Khan QU, Akram S, Anwar W, Sana S, Kazmi T. Effect of preferred learning styles on academic achievements: A cross-sectional descriptive study. *Professional Med J* 2021; 28(11):1673-1677.
7. Collins, R., & Rivera, M. (2020). Enhancing academic performance through individualized teaching methods. *International Journal of Innovative Pedagogy*, 12(2), 89–99. <https://doi.org/10.2987/ijip.v12n2p89>