Research Article

A Study on Learning Styles among High School Students in Kerala

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Abstract

This study examines the learning styles of high school students in Kerala, exploring differences based on gender, region, and academic stream (arts or science). Learning styles significantly influence students' ability to comprehend, process, and retain information. Using a standardized tool developed by J.M. Reid (1987), the study collected data from 300 high school students. Statistical analyses, including t-tests and ANOVA, were used to test hypotheses related to demographic variables. The findings indicate that while gender and regional background do not significantly affect learning styles, a notable difference was found between students from arts and science streams, with arts students showing higher learning style scores. These findings emphasize the importance of understanding individual learning preferences to enhance instructional effectiveness and academic achievement.

Keywords: Learning styles, high school students, VARK, stream of study, Kerala, demographic variables

Introduction

In a rapidly changing educational landscape, educators face the challenge of addressing diverse learning needs. One of the most effective strategies is to understand and incorporate students' learning styles into instructional practices. Learning styles represent the preferred ways individuals absorb, process, and retain information. Recognizing and catering to these differences can significantly improve learning outcomes, increase student motivation, and foster deeper understanding.

This study seeks to analyse the learning styles of high school students in Kerala and explore whether these styles differ across gender, region, and stream of study. By examining such variations, educators can design more inclusive and personalized pedagogical approaches.

Review of Literature

The concept of learning styles has been widely studied across disciplines. Keefe (1979) defined learning styles as "characteristic cognitive, affective, and psychological behaviors" that act as relatively stable indicators of how learners interact with the learning environment. Kolb (1984) emphasized experiential learning through a four-stage cycle, while Fleming's (2001) VARK model categorized learners based on sensory preferences.

Gardner (1983), through his theory of Multiple Intelligences, argued that intelligence is not a singular trait but manifests in various forms, such as linguistic, spatial, and bodily-kinesthetic intelligences. These theories have influenced curriculum design and teaching strategies worldwide.

Indian studies, such as those by Geetha & Praveena (2017), and Indu & Vintha (2015), revealed a high preference for kinaesthetic learning among students. Others (Kinjari & Gopal, 2020) reported no significant gender-based differences, emphasizing that learning preferences are dynamic and context-dependent.

Objectives of the Study

- To examine the differences in learning styles among high school students based on gender.
- To determine whether regional background influences learning style preferences.
- To investigate the difference in learning styles between students of arts and science streams.

Hypotheses

- **H_{01}**: There is no significant difference in learning styles between male and female students.

- **H_{02}**: There is no significant difference in learning styles between urban and rural students.
- **H_{03}**: There is no significant difference in learning styles between arts and science students.

Methodology

Sample

The study used a descriptive survey method. A total of 320 high school students from six schools in Kerala were initially approached. After data validation, 300 responses were retained. The sample was stratified based on gender, region, and stream of study.

Demographics:

- **Gender**: 117 males (39%) and 183 Females (61%)
- **Region**: 152 rural (50.67%) and 148 Urban (49.33%)
- **Stream**: 145 arts (48.33%) and 154 Science (51.33%)

Tools Used

- **Learning Style Inventory** by J.M. Reid (1987), a 24-item questionnaire using a 5-point Likert scale.
- **Personal Information Sheet** for collecting demographic data.

Procedure

The researcher visited schools across the Iritty region in Kerala and administered the questionnaires in classroom settings. Clear instructions were provided, and students responded voluntarily.

Data Analysis and Interpretation

Gender and Learning Style

Variables	Gender				t value	P value	Result
	Female		Male				
	Mean	SD	Mean	SD			
Learning Style	129.33	10.215	131.07	9.218	1.490	0.137	NS

Interpretation: The p-value of 0.137 > 0.05 indicates no significant difference in learning styles between male and female students.

Region and Learning Style

Variables	Region				t value	P value	Result
	Urban		Rural				
	Mean	SD	Mean	SD			
Learning Style	129.87	10.357	130.14	9.381	129.87	10.357	130.14

Interpretation: No significant difference was found between urban and rural students (p = 0.811).

Stream of Study and Learning Style

Variables	Stream of Stream				t value	P value	Result
	Arts		Science				
	SD	Mean	SD	Mean			
Learning Style	8.278	128.90	11.043	2.081	8.278	128.90	11.043

Interpretation: A statistically significant difference (p = 0.038 < 0.05) indicates that arts students show a higher preference for learning style diversity than science students.

Major Findings

Gender: There is no significant gender-based difference in learning styles. Both male and female students exhibit similar learning preferences.

Region: Urban and rural students do not differ significantly in their learning styles, indicating regional background has little impact on learning behavior.

Stream of Study: A significant difference was observed between students of arts and science streams, suggesting curriculum structure and subject nature may influence learning styles.

Educational Implications

- **Inclusive Teaching**: Teachers must use diverse instructional techniques (visual, auditory, kinesthetic) to accommodate various learning styles.
- **Stream-Specific Support**: Curriculum planners may integrate varied learning strategies for students in both arts and science streams.
- **Awareness and Training**: Students should be made aware of their learning preferences to enable self-directed learning.
- **Professional Development**: Teacher training should include strategies to identify and adapt to students' learning styles.

Delimitations of the Study

- The sample is limited to 300 high school students from Kerala.
- Only three demographic variables (gender, region, stream) were studied.
- Other influencing factors such as socio-economic status, parental education, or school infrastructure were not considered.

Conclusion

Learning styles remain a critical factor in designing effective learning environments. While personal demographics such as gender and region may not significantly influence learning preferences, academic stream plays a role in shaping how students engage with content. Understanding and incorporating diverse learning styles into classroom instruction can enhance student engagement, performance, and overall academic success.

References

Fleming, N. D. (2001). *Teaching and learning styles: VARK strategies*. Christchurch, New Zealand: Neil Fleming.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books.

Geetha, V., & Praveena, P. (2017). Learning styles of secondary school students in relation to their gender and medium of instruction. *International Journal of Research in Humanities, Arts and Literature*, *5*(2), 53–58.

Indu, P. S., & Vintha, R. (2015). Learning style preferences among secondary school students. *Journal of Educational Research and Extension*, *52*(4), 11–19.

Keefe, J. W. (1979). *Learning style: An overview*. National Association of Secondary School Principals.

Kinjari, K., & Gopal, K. (2020). A study on the learning styles of secondary school students in relation to gender and achievement in science. *International Journal of Advanced Education and Research*, *5*(3), 1–5.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

Reid, J. M. (1987). The learning style preferences of ESL students. *TESOL Quarterly*, *21*(1), 87–111. https://doi.org/10.2307/3586356