

Learning Preferences of First Year Nursing Students: Utilizing VARK

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ABSTRACT

Introduction: Nursing students are faced with an extreme amount of curriculum materials that can't be simply memorized, so different ways of learning have always been emphasized. The goal of this study was to investigate learning styles among first-year nursing students of Nursing College using the VARK questionnaire.

Method: A descriptive study was conducted at the Bhurgri Institute of Nursing Matli.

Results: A total of 100 participated: out of them, 61.62% were male and 38.38% were female. The majority (59%) of first-year students had preferred visual learning styles. Whereas (22%) preferred aural while (13%) students preferred Read/write, and (6%) students preferred the kinesthetic learning style

Conclusion: The students were more inclined toward the Visual style and least toward the Kinesthetic learning style. Findings have implications for academics engaged in teaching graduate entry nursing students.

Keywords: Learning Styles, Nursing Students, Nursing Education

INTRODUCTION

Learning styles are the different ways that people prefer to absorb and process information. There are many different learning styles models, but one of the most popular is the VARK model. The VARK model stands for Visual, Aural, Read/Write, and Kinesthetic.¹ Visual learners prefer to learn by seeing information. They may learn best by reading, watching videos, or looking at pictures. Auditory learners desire to learn by hearing information. They may learn best by listening to lectures, talking to others, or listening to audio recordings.² Read/write learners prefer to learn by reading and writing. They may learn best by reading textbooks, taking notes, or writing essays. Kinesthetic learners prefer to learn by doing.

They may learn best by hands-on activities, role-playing, or practicing skills.³ In nursing education, where the acquisition of both theoretical knowledge and practical competencies is essential, recognizing and addressing students' diverse learning preferences is critical to enhancing academic performance and clinical competence. The VARK model categorizing learners into Visual, Auditory, Read/Write, and Kinesthetic modalities provides a useful framework for understanding how nursing students process and retain information.⁴ Evidence from recent studies highlights that aligning teaching strategies with students' preferred learning styles can improve engagement, comprehension, and confidence in clinical practice.⁵ The VARK model, originally introduced by Fleming and Mills (1992), categorizes learning preferences into four modes: Visual, Auditory, Read/Write, and Kinesthetic. Their seminal contribution highlighted the importance of recognizing individual learning preferences and suggested that tailoring instructional strategies could enhance student engagement and learning outcomes. Subsequent research in health sciences and nursing education has reinforced the relevance of this framework, demonstrating that awareness of VARK preferences not only supports effective teaching but also encourages students' self-directed learning and academic success.⁶ Dunn and colleagues contributed significantly to the field of educational psychology by providing a comprehensive survey of research on learning styles, emphasizing the importance of accommodating diverse preferences within instructional design.⁷ Their work laid the foundation for the application of specific learning style frameworks, such as the VARK model, in higher education. Contemporary research in health sciences and nursing has extended these insights, suggesting that acknowledging learning preferences can enhance student engagement, promote individualized teaching strategies, and improve academic outcomes.⁸ Kolb's Experiential Learning Model, which emphasizes a cyclical process of concrete experience, reflective observation, abstract conceptualization, and active experimentation, has been widely critiqued and evaluated for its applicability in professional education, including nursing. While not directly aligned with the sensory modalities of the VARK model, Kolb's framework addresses the broader concept of learning preferences and experiential engagement in knowledge acquisition.⁹ Recent research underscores that integrating experiential approaches with learning style frameworks can enrich curriculum design, foster clinical reasoning, and enhance student-centered teaching strategies.¹⁰ This study focuses on the learning styles of practicing nurses but can offer insights into the relevance of understanding learning preferences in the context of nursing education.

Aim

This study aims to assess the learning preferences of first-year nursing students utilizing the VARK model. By identifying the predominant learning preferences within this specific student population, educators and curriculum designers can make informed decisions regarding teaching methodologies, instructional materials, and learning environments that align with students' preferences.

MATERIAL AND METHOD

Study Setting and Study Design

A descriptive study was conducted at the Bhurgri Institute of Nursing Matli.

Study Time

Period from March 14, 2025, to July 14, 2025.

Sample size

The sample consisted of 100 student nurses of the College of Nursing (Female), Badin & Bhurgri Institute of Nursing Matli. The sample size was determined by Raowsoft software.

Sampling technique

Non-probability convenient sampling.

Sample Selection

Inclusion Criteria

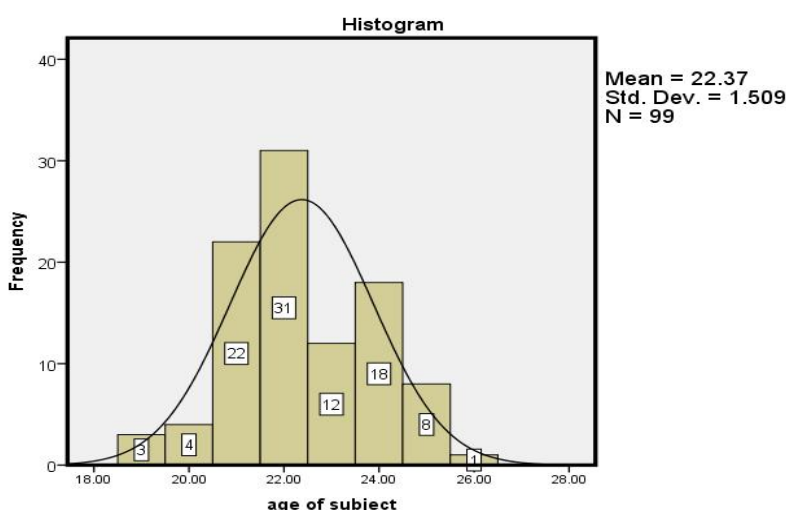
- BS Nursing Generic Students from 1st year 1st Semester.
- Those who were willing to participate

Exclusion criteria

- From the 2nd year, 3rd semester onwards

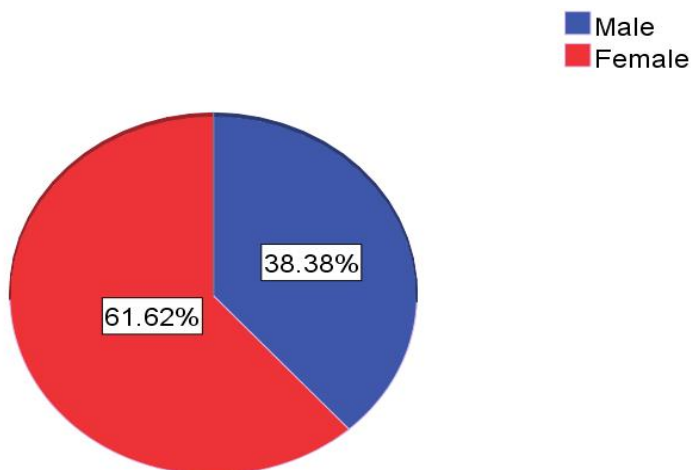
RESULTS

Graph 1: Age distribution among participants



The histogram illustrates the age distribution of the study participants (N = 99). The ages ranged from 18 to 26 years, with a mean age of 22.37 years (SD = 1.51). The distribution is approximately normal.

Graph 2: Gender distribution among participants



Graph 2: Gender distribution among participants

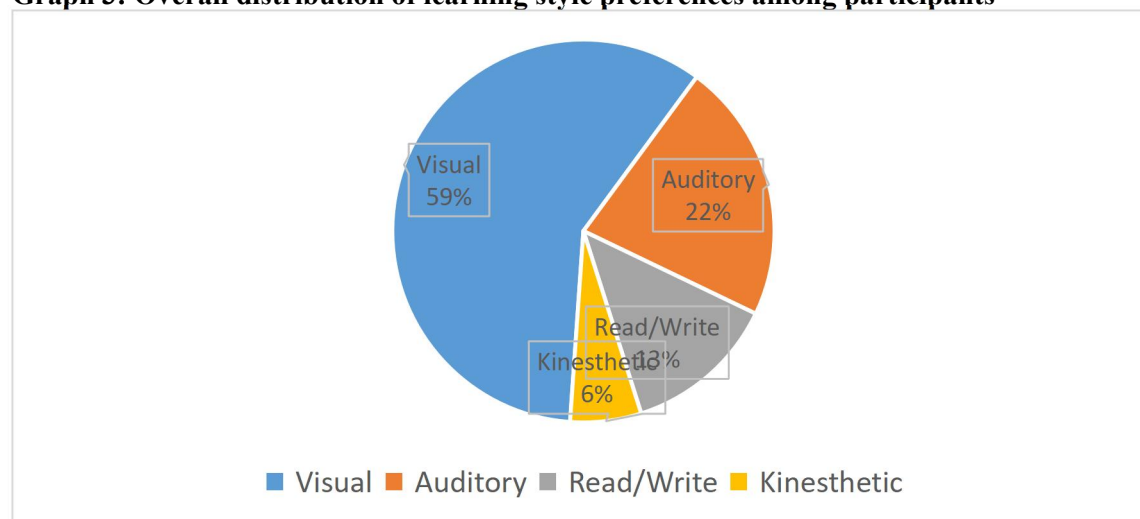
The pie chart presents the gender distribution of the study participants. Out of a total of 99 respondents, 61.62% were male, while 38.38% were female.

Table 1: Learning Style Preferences of Participants

S#	Question Text	Visual (%)	Audio (%)	Read/Write (%)	Kinesthetic (%)
1	I need to find the way to a shop that a friend has recommended. I would:	32	62	5	1
2	A website has a video showing how to make a special graph or chart. There is a person speaking, some lists and words describing what to do and some diagrams. I would learn most from:	42	45	13	0
3	I want to find out more about a tour that I am going on. I would:	58	26	14	2
4	When choosing a career or area of study, these are important for me:	59	27	14	0
5	When I am learning I:	58	23	15	4
6	I want to save more money and to decide between a range of options. I would:	38	35	24	3
7	I want to learn how to play a new board game or card game. I would:	19	46	34	1
8	I have a problem with my heart. I would prefer that the doctor:	30	30	39	1
9	I want to learn to do something new on a computer. I would:	40	18	38	4
10	When learning from the Internet I like:	24	30	43	3
11	I want to learn about a new project. I would ask for:	20	31	41	8
12	I want to learn how to take better photos. I would:	25	32	37	6
13	I prefer a presenter or a teacher who uses:	23	36	35	6
14	I have finished a competition or test and I would like some feedback. I would like to have feedback:	20	44	30	6
15	I want to find out about a house or an apartment. Before visiting it I would want:	26	35	27	12
16	I want to assemble a wooden table that came in parts (kitset). I would learn best from:	21	46	25	8

The above table shows that visual and auditory learning styles were the most dominant preferences among first-year nursing students, while read/write and kinesthetic styles were less frequently endorsed. Overall, the visual mode was the most preferred, consistently emerging in contexts such as learning about a tour (58%), career selection (59%), and general learning activities (58%). The auditory mode was also highly chosen, particularly in situations requiring explanations or instructions, such as learning new games (46%) and assembling tasks (46%). Read/write learning preferences were moderate, most evident in tasks involving detailed information such as medical consultations (39%), computer learning (38%), and internet-based learning (43%). Kinesthetic learning, although least preferred overall, gained relatively higher importance in practical or experiential tasks such as housing decisions (12%), project learning (8%), and assembling furniture (8%).

Graph 3: Overall distribution of learning style preferences among participants



The pie chart illustrates that Visual learning emerged as the most dominant style, accounting for 59% of responses, indicating that a majority of students preferred information presented through diagrams, charts, and other visual aids. Auditory learning was the second most common preference (22%), reflecting students' inclination toward lectures, discussions, and verbal instructions. Read/write learning accounted for 13% of responses, highlighting the preference for text-based materials such as notes and books. Kinesthetic learning was the least preferred style (6%), suggesting limited reliance on hands-on activities for learning.

DISCUSSION

In the present study, the majority of participants were male (61.62%), while females comprised 38.38% of the sample. Concerning learning preferences, the findings revealed that visual and auditory styles were the most frequently endorsed. Specifically, 59% of students preferred the visual mode, followed by 22% who favored the auditory mode. In contrast, comparatively fewer students indicated a preference for the read/write (13%) and kinesthetic (6%) styles. These results suggest that nursing students in this cohort are more inclined toward learning through visual and auditory modalities than through text-based or hands-on approaches. Recent studies conducted in health sciences education support these findings. For instance, research among undergraduate nursing students in Saudi Arabia similarly reported that visual and auditory modes were dominant learning preferences, highlighting the continued reliance of students on lecture-based and image-supported teaching methods.¹¹ Conversely, other recent studies have emphasized the importance of kinesthetic and multimodal learning. Studies in India demonstrated that a substantial proportion of students preferred kinesthetic learning, particularly in practical and skills-based courses.⁴ In comparison, one of the studies also reported a predominance of visual and auditory learning but highlighted a stronger inclination toward multimodal preferences. While both studies confirm the importance of visual and auditory styles in nursing education, the contrast lies in the lower proportion of multimodal and kinesthetic learners in the present study. This difference may be attributed to variations in curriculum design, teaching strategies, or cultural learning practices. Collectively, both studies emphasize the value of integrating multimodal teaching methods to meet the diverse needs of nursing students.¹²

CONCLUSION

The current study found that the majority of students favored visual (59%) and auditory (22%) learning styles, while comparatively fewer preferred read/write (13%) and kinesthetic (6%) modalities. These findings indicate that nursing students predominantly rely on visual and auditory approaches to acquire knowledge, reflecting the influence of lecture-based and visually oriented teaching methods in nursing education. The results also suggest that although read/write and kinesthetic styles were less frequently endorsed, they remain relevant in specific learning contexts, highlighting the diversity of student needs.

LIMITATION

The present study also had some limitations. Since the current study had a cross-sectional design, it was not possible to investigate the likelihood of a cause-and-effect relationship between learning style and academic achievement. Since students from third vs. last grade may present differences due to acquired experience and maturity, the results might be affected when comparing students from different grades.

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