



A pan India study on learning styles of under graduate nursing students

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Abstract

Students' favorites and styles practiced in their learning process, play a vital role in educational consequences and these favorites are conveyed into different learning styles. Some students find that their learning style may be a blend of two or three styles. Preference of learning styles varies among students of different gender, culture, environment and etc. Hence it is important to perform a learning style inventory before planning and implementing teaching and learning methods. This study employed a descriptive and exploratory design with a sample size of 1192 undergraduate nursing students from selected Colleges of Nursing at different locations in India. Total enumerative sampling technique was adopted for this research study. A self administered questionnaire on VAK learning style indicators was used for collecting data. Kinesthetic style of learning was the most preferred learning style among the nursing students. At the same time preference of learning style varied among UG nursing students at different locations and different academic year of study. Teaching methods can be planned, based on the individual variation in preference of learning styles.

Keywords: VAK learning style, learning styles of nursing students

Introduction

Learning style is the way in which an individual characteristically acquire, retain, and retrieve information. How much is learnt in a class is influenced by the learner's native ability and prior preparation, but also by natural approach to learning and the instructor's characteristic approach to teaching. A person's learning style may be defined in terms of what type of information does an individual preferentially perceive, through which modality is sensory information most effectively perceived and with what type of information is most comfortable. A learner may demonstrate a strong, moderate, or no preference towards one or more learning style. Learning styles focuses on students' preferred channel of perception. Learners may use different channels at different times depending on the nature of the task to be performed. It is possible to allocate learners to one of the following groups based on their generally preferred channel of perception. The three preferred learning styles are classified as

- 1. Visual learning style:** Visual learners tend to think in pictures, they usually create a mental picture of what is described in the text. They don't pay much attention to the dialogue, and may miss the meaning of some phrases if they contain words that are difficult to visualize. It is very important for a visual learner to have the educational material presented using maps, diagrams, charts, pictures, etc.

- 2. Auditory learning style:** Auditory learners learn best by

hearing information. They may have difficulties understanding a text if they read it, but if they listen to it they will be able to capture more of the detail. They are very sensitive to the speech quality, tone and timbre of the voice, intonation, etc. They are often talkative, needing to think aloud; they usually enjoy music and conversations.

- 3. Kinesthetic learning style:** Kinesthetic learners learn best through touch, movement, imitation, and other physical activities. They remember best by writing or physically manipulating the information. Kinesthetic learners don't usually like to read instructions, and it is difficult for them to sit still for a long time.

Dunn (1997) [3] have associated predominant learning styles with learners from different cultural groups and it seems reasonable to accept that culture has some influence on learning styles. However, it is important to avoid stereotyping and to recognize that many studies support the view that there is no single or specific learning style typical for the members of a cultural, national, racial or religious group. All groups comprise individuals with their own preferences and their own profile of intelligence.

Nurses function in a challenging environment where they are required to utilize various methods of learning to process, integrate, and dissimilate information when appropriate. It is important for the novice nursing students to recognize their learning style and be able to recall knowledge gained during

the clinical and classroom environment. Completing the learning styles inventory can help to figure out what learning preferences students may have and how teachers can use these preferences to improve the academic success. This helps to strategize how to strengthen those areas which may require a learning approach that does not come naturally to learners. For example, someone who is good at memorizing pool of information, has a real world connection or application. Students with this tendency tend to be practical and careful and approach their work in a concise and logical way. Teacher may decide to take a class that emphasizes innovation and application of knowledge rather than learning of facts. Learner may be someone who is intuitive and theoretical and good at grasping the ‘big picture’ and details tend to be of less significance than the actual concepts. They tend to enjoy application of knowledge rather than memorizing of facts. Currently no studies have been done in the country to explore the individual preference of learning styles among learners from different cultural background, so the researchers were interested to do a Pan India study among nursing students. Dr. Latha Venkatesan (2015) [5] performed a study to analyze the learning styles among (97) I year and (94) IV year B. Sc. Nursing students and results revealed that beginners preferred kinesthetic learning style and final year students preferred auditory learning style.

This article looks at the need to acknowledge that students have different learning styles, and proposes that B.Sc (N) students' education can be maximized when these learning styles are integrated into the study habits of nursing students.

Statement of the problem

A Pan India study to determine the Preference of Learning Styles among undergraduate Nursing Students at selected Nursing Colleges in India.

Objectives

1. To explore the preference of learning styles among different levels of nursing students across India
2. To determine the preference of learning styles of nursing students at different states across India

Methods and Materials

This study employed a descriptive and exploratory design. The study sample included 1192 nursing students of GNM and B.Sc (N) program of all the Apollo colleges of Nursing in India. There are 6 colleges that are located in Chennai and Madurai from Tamil Nadu, Aragonda from Andhra Pradesh, Ahmedabad from Gujarat, Bilaspur from Chhattisgarh and New Delhi. Total enumerative sampling technique was adopted for this research study.

Data was collected using modified VAK Learning style questionnaire through self-administration method. The reliability ($r = 0.82$) of the tool was found to be high and validity was obtained from experts in the field of nursing. The tool was in English language. Questionnaire composed of 30 multiple choice questions. The questions included three options (A, B, and C). Option A represented Visual learning style, option B represented auditory learning style, and option C represented kinesthetic learning style. The baseline variables proforma was used to collect the baseline information of the nursing students.

Results and Discussion

The demographic variables of students showed that the students were distributed in the age groups of 18 (18.4%), 19 (22.7%), 20 (23.8%) and 21 years (21.5%) respectively as represented in table 1. Nursing students were almost equally distributed from I year (25.34%), II year (27.43%), III year (25.92) and IV year (21.31%) of study as revealed in Fig.1.

Table 1: Frequency and Percentage Distribution of Variables among Nursing Students of All Apollo College of Nursing At different Locations (N=1192)

Variables	f	%
Age in years		
17	54	4.5
18	219	18.4
19	271	22.7
20	284	23.8
21	256	21.5
22	92	7.7
23	14	1.2
24	2	0.2
Sex		
Female	1133	95.1
Male	59	4.9
Course of Study		
B.Sc. Nursing	1109	93
GNM	83	7

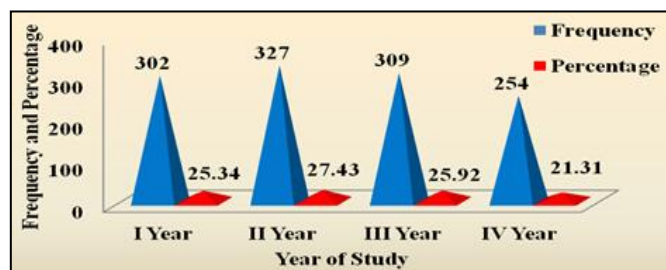


Fig 1: Frequency and percentage distribution of year of study among nursing students

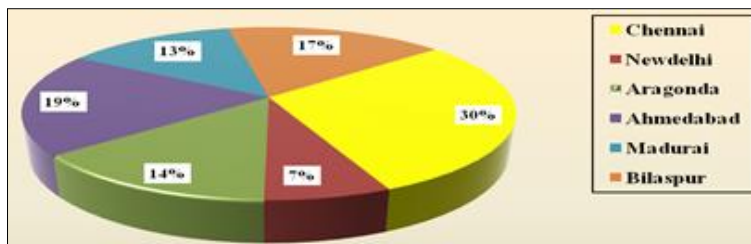


Fig 2: Percentage distribution of nursing students at different locations

Majority of the participants were B. Sc nursing students (93%) in comparison with GNM students (7%) who were enrolled from various locations and found to be almost equally distributed from Aragonda (14%), Ahmedabad (19%), Madurai (13%), and Bilaspur (17%) except in Chennai (30%) where the students' intake is more and GNM students participated from New Delhi (7%) as depicted in Fig.2.

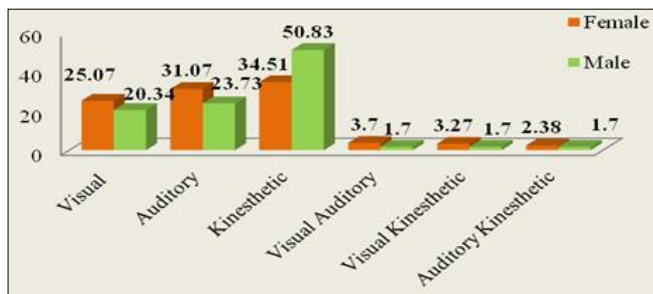


Fig 3: Frequency and Percentage Distribution of Learning styles among Female and Male Nursing Students (N=1192)

Fig 3 depicts that Female nursing students have almost equal preference to Auditory (31.07%) and kinesthetic (34.5%) learning style in comparison with 50.83% male nursing students preferred Kinesthetic learning style. It can be interpreted from the above data that, male nursing

students were more interested in learning through tactile and hands on activities while female nursing students showed equal interest in learning by hearing information and physically manipulating information. These findings were also consistent with the study conducted by Riazi, Mansoorian and Mohammad Ali (2008) who reported that males were more interested in tactile, group, and kinesthetic learning styles while the female students showed less preference toward these learning styles specially the group learning style.

I year nursing students almost equally preferred Auditory(33.11%) and Kinesthetic (33.44%) learning style and 36.39% of II year, 31.07% of III year and 33.47% of IV year nursing students preferred Kinesthetic learning style as noted in table 2.

The results indicate that preferred learning style varied among the nursing students in different years of their course of study. Fresher's choice was to learn by hearing lecture and demonstration when compared to senior students' choice was practical learning. This result was supported by a study performed by Aqel, A, and Mahmoud, S. (2006), on learning style for University students, the results showed that there were significant differences in the learning styles according to academic level. This implies that each academic level has its own properties and learning preferences which the lecturer should consider while teaching.

Table 2: Frequency and Percentage Distribution of Learning Styles of Nursing students among all the years of study (N=1192)

Learning styles	I Year (n=302)		II Year (n=327)		III Year (n=309)		IV Year (n=254)	
	f	%	f	%	f	%	f	%
Visual	67	22.19	77	23.55	71	22.98	72	28.35
Auditory	100	33.11	96	29.36	88	28.48	78	30.71
Kinesthetic	101	33.44	119	36.39	96	31.07	85	33.47
Visual Auditory	7	2.32	15	4.59	8	2.59	6	2.36
Visual Kinesthetic	8	2.65	11	3.36	8	2.59	10	3.94
Auditory Kinesthetic	12	3.97	10	3.06	7	2.27	2	0.79

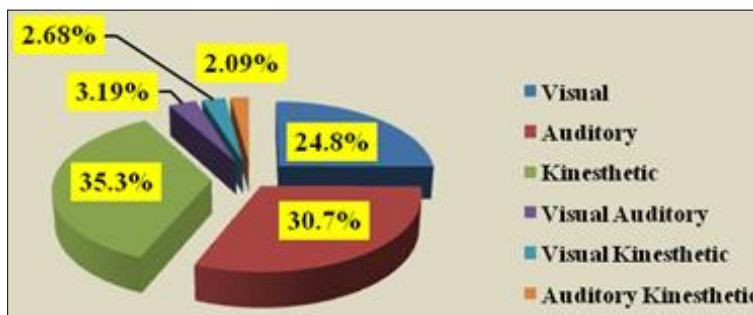


Fig 4: Percentage Distribution of Learning Styles Among Nursing Students (N=1192)

Most of 35.3% and 30.7% nursing students preferred individual learning style of Kinesthetic and Auditory respectively. 3.19% of nursing students preferred combined learning style of visual auditory as shown in Fig 4.

Findings reveal that predominant learning styles preferred by nursing students were Kinesthetic and Auditory but some of the nursing students were multi mode learners who preferred visual auditory learning style. This clearly means that active learning strategies are more required, as they consider different characteristics of learners through ratiocination and making problem solving improvements, as well as through

development of decision- making skills. Discussions in class, collaborating learning skills, playing roles, simulating, models, struggles and games are active strategies that can be utilized in teaching methods.

Majority of nursing students of all the years of study at Chennai preferred auditory learning style. At New Delhi nursing students of (42.1%) II and (33.3%) III year preferred Kinesthetic learning style. At Aragonda (48.9%) I and (32.7%) II year nursing students preferred Auditory and (46.5%) IV year nursing students preferred Kinesthetic learning style. At Ahmedabad (41.5%) I and (42.9%) II year

nursing students preferred Kinesthetic and (43.9%) III & (43.9%) IV year nursing students preferred Auditory learning style. At Madurai (35.6%) I and (40%) IV year nursing students preferred visual, (37.8%) II & (40.5%) III year

preferred Kinesthetic. At Bilaspur (41.9%) I & (50.9%) II year preferred Kinesthetic, (45.1%) III year preferred Visual and (35.4%) IV year nursing students equally preferred Visual and kinesthetic learning style as presented in table 3.

Table 3: Frequency and Percentage Distribution of Learning Styles among Nursing Students of All the Years of Study at Various Locations (N=1192)

Learning styles	Visual		Auditory		Kinesthetic		Visual Auditory		Visual Kinesthetic		Auditory Kinesthetic	
	f	%	f	%	f	%	f	%	f	%	f	%
Chennai (n=350)												
I year (100)	22	22	34	34	31	31	5	5	3	3	5	5
II year(85)	18	21.2	33	38.8	20	23.5	10	11.8	1	1.2	3	3.5
III year(84)	15	17.9	32	38.1	29	2.4	2	2.4	2	2.4	4	4.8
IV year(81)	21	25.9	32	39.5	24	29.6	2	2.5	1	1.2	1	1.2
New Delhi (n=83)												
II year(38)	8	21.1	10	26.3	16	42.1	1	2.6	1	2.6	2	5.2
III year(45)	11	24.4	13	28.9	15	33.3	2	4.4	2	4.4	2	4.4
Aragonda (n=168)												
I year(47)	7	14.9	23	48.9	14	29.8	0	0	1	2.1	2	4.3
II year(49)	11	22.4	16	32.7	14	28.6	2	4.1	3	6.1	3	6.1
IV year(43)	12	27.9	7	16.3	20	46.5	0	0	3	7	1	2.3
Ahmedabad(n=230)												
I year(60)	15	25	18	30	25	41.7	1	1.7	0	0	1	1.7
II year(56)	13	23.2	18	32.1	24	42.9	1	1.8	0	0	0	0
III year(57)	12	21.1	25	43.9	19	33.3	0	0	1	1.8	0	0
IV year(57)	12	21.1	25	43.9	19	33.3	0	0	1	1.8	0	0
Madurai (n=157)												
I year (45)	16	35.6	11	24.4	13	28.9	1	2.2	3	6.7	1	2.2
II year(45)	18	40	5	11.1	17	37.8	0	0	5	11.1	0	0
III year(42)	10	23.8	9	21.4	17	40.5	4	9.5	1	2.4	1	2.2
IV year(25)	10	40	5	20	5	20	1	4	3	12	1	2.2
Bilaspur (n=204)												
I year(43)	7	16.3	14	32.6	18	41.9	0	0	1	2.3	3	7
II year(55)	9	16.4	14	25.5	28	50.9	1	1.8	1	1.8	2	3.6
III year(51)	23	45.1	9	17.6	16	31.4	0	0	2	3.9	1	2
IV year(48)	17	35.4	9	18.8	17	35.4	3	6.3	2	4.2	0	0

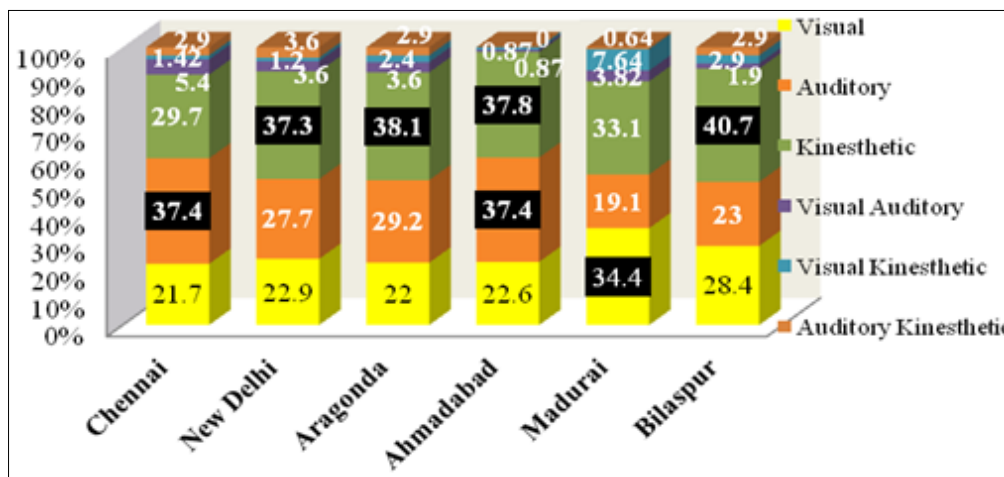


Fig 5: Percentage Distribution of learning styles among nursing students at different States in India (N=1192)

Most of nursing students (37.4%) from Chennai preferred Auditory learning style, Whereas 37.3% of students from New Delhi, 38.1% from Aragonda and 40.7% from Bilaspur preferred kinesthetic learning style. 34.4% from Madurai preferred Visual learning style. 37.4% and 37.8% from

Ahmedabad preferred Auditory and Kinesthetic respectively as shown in fig.3. Learning style preference varied among year of study as well as different states of location. This clearly implies that every learner have their individual preference towards a particular

learning style based on the learning situations. All educational units should perform the learning style inventory of their nursing students to understand the individual needs and plan the teaching methods that include all the learning styles. A multisensory approach is required where the learning activity provides simultaneous input or output via two or more sensory channels. Learning that is experienced through two or more senses is much more likely to be retained by students. This approach is particularly important for students with learning difficulties and for students with a multilingual background who may not be able to rely on verbal explanations in the language of instruction.

The concept of learning styles has received huge attention in the pragmatic texts and various models have been suggested in order to enhanced appreciate the active manner of teaching (Arthurs, 2007) ^[1]

Conclusion

If teachers have insight into their students' learning styles, they will have a better understanding of each student's individual needs and increased understanding of the areas in which that student is likely to require additional support and, importantly, those areas in which they are likely to shine. Teachers with this knowledge are likely to put a greater emphasis on the need to vary classroom activities and to incorporate multisensory approaches whenever possible. Students will value the fact that their teacher is interested in their learning style and will gain insight into the ways in which they can learn most effectively. This will help them in the organization of their learning and will guide them towards becoming more independent learners.

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