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A Descriptive Study to Assess the Preferred Learning Styles of Nursing Students in A Selected Colleges at Mangalore

Nageshwar Venkatesh Reddy

Asst Professor and Head, Department of Mental Health and Psychiatric Nursing, Faculty of Nursing, Al Baha University, Al Baha, Kingdom of Saudi Arabia.

Abstract: A preferred learning style is a style in which the person can learn best, reflecting their strengths and weaknesses of the individual. To understand any material, we should use our senses, through sight, sound, touch, smell or taste. Hence this study was designed to assess the preferred learning styles of nursing students in a selected college at Mangalore. Kolb's Learning inventory is used to collect data from 100 Nursing students from different nursing colleges and analyzed. The results show that each individual has their own type of learning style (Among the 1st year B. Sc. 21.05% of the student's concrete experience is dominant, 68. 42% of the students' concrete experience is intermediate and 10.53% of students have the lowest concrete experience). Learning style is a method in which each of us utilizes for a better understanding of the material. This has led to several studies which have extrapolated the different characteristics associated with how people receive, process and utilize information.

Keywords: *- preferred learning styles, students, nursing, descriptive.*

Introduction

Each person has his/her own type of learning style. Learning style is a method in which each of us utilizes to better understand material. A preferred learning style is a style in which the person can learn best, reflecting their strengths and weaknesses. To understand material, we take it all in with our senses, through sight, sound, touch, smell or taste. Multiple Intelligence theory maintains that there are at least seven learning styles "intelligences": interpersonal, intra-personal, body/kinesthetic, visual/spatial, mathematical/logical, verbal/linguistic and musical/rhythmic (Lazear, D.1991). Research shows that individuals learn in different ways. This has led to several studies which have extrapolated the different characteristics associated with how people receive, process and utilize information. A keen interest in these individual differences, named "learning styles", saw an increase in the 1960s. Today, even as the field of psychology has made as shift to studying more in-depth behaviors of group, learning styles continue to play significant roles in how human beings learn. What seems to remain constant in attempting to interpret how learning is done is the complexity of the human mind in terms. It is quite unique that one person can

process information one way while another does so in a contrasting manner, yet both people receive, process and ultimately arrive at the same level of knowledge about what they are taught. Understanding learning styles, which are often simple, yet complex, allows educators and trainers to tailor their methods of teaching and materials to accommodate different styles of learning.

There are three types of learning styles. People receive process and retain information by using visual, auditory or kinesthetic methods. There has also been evidence that learning styles often lead learners to develop characteristics that have led experts to properly gauge levels of intelligence. In this study, we are using four tool variables.

- Concrete experience (feeling): Learning from specific experiences and relating to people.
- Sensitive to other feelings.
- Reflective observation (watching): Observing before making a judgement by viewing the environment from different perspectives. Look for the meaning of things.
- Abstract conceptualization (thinking): Logical analysis of ideas and acting on intellectual understanding of a situation.
- Active experimentation (doing): Ability to get things done by influencing people and events through action. Includes risk taking.

It is also common for visual learners to remain clearly focused on the material being presented as well as the instructor. This indicates to experts that visual learners tend to "think in pictures,". Absorbing information on the part of the visual learner usually involves detailed notetaking and closely examining and remembering charts, maps, photographs, handouts and other visual aids. Visual learners are also succinct and thorough readers.

Auditory learners, shows, learn through listening. With the same diligence as visual learners, these individuals prefer to thoroughly discuss materials and often pay close attention to the pitch, tone, words and speed of which teachers deliver their messages.

Kinesthetic learning involves the need for a student to touch and feel elements of their surroundings to retain information. It further notes that people who depend on kinesthetic learning often become easily agitated or distracted and cannot focus due to their needs for further instruction and to physically get their hands on items relating to the material in front of them. Kinesthetic learning is also known as tactile learning.

Significance of the study:

The idea that people learn differently is vulnerable and probably had its origin with the ancient Greeks (Watcher, Morrison, Riley & Scheirton,1997). Grasha (1996) has defined learning styles as personal qualities that influence a student's ability to acquire information, to interact with peers and the teacher, and otherwise participate in learning experiences.

Learning styles are various approaches or ways of learning. They involve educating methods, particularly to an individual, that are presumed to allow that individual to learn best. Most

people prefer an identifiable method of interacting with, taking in, and processing stimuli or information. Based on this concept, the idea of individualized "learning styles" originated in the 1970s, and acquired "enormous popularity". Proponents say that teachers should assess the learning styles of their students and adapt their classroom methods to best fit each student's learning style, which is called the "meshing hypothesis".

Purpose:

"To assess the preferred learning styles of nursing students in a selected college at Mangalore"

Operational definitions

Preferred learning styles:

In this study, preferred learning style means various methods which the students are using for learning purpose. It will be assessed by Kolbs Likert scale (instrument two)

Methods

The descriptive exploratory approach has been used with an aim, to assess the preferred learning styles in nursing students. The research design adopted to the present study is depicted in figure-1

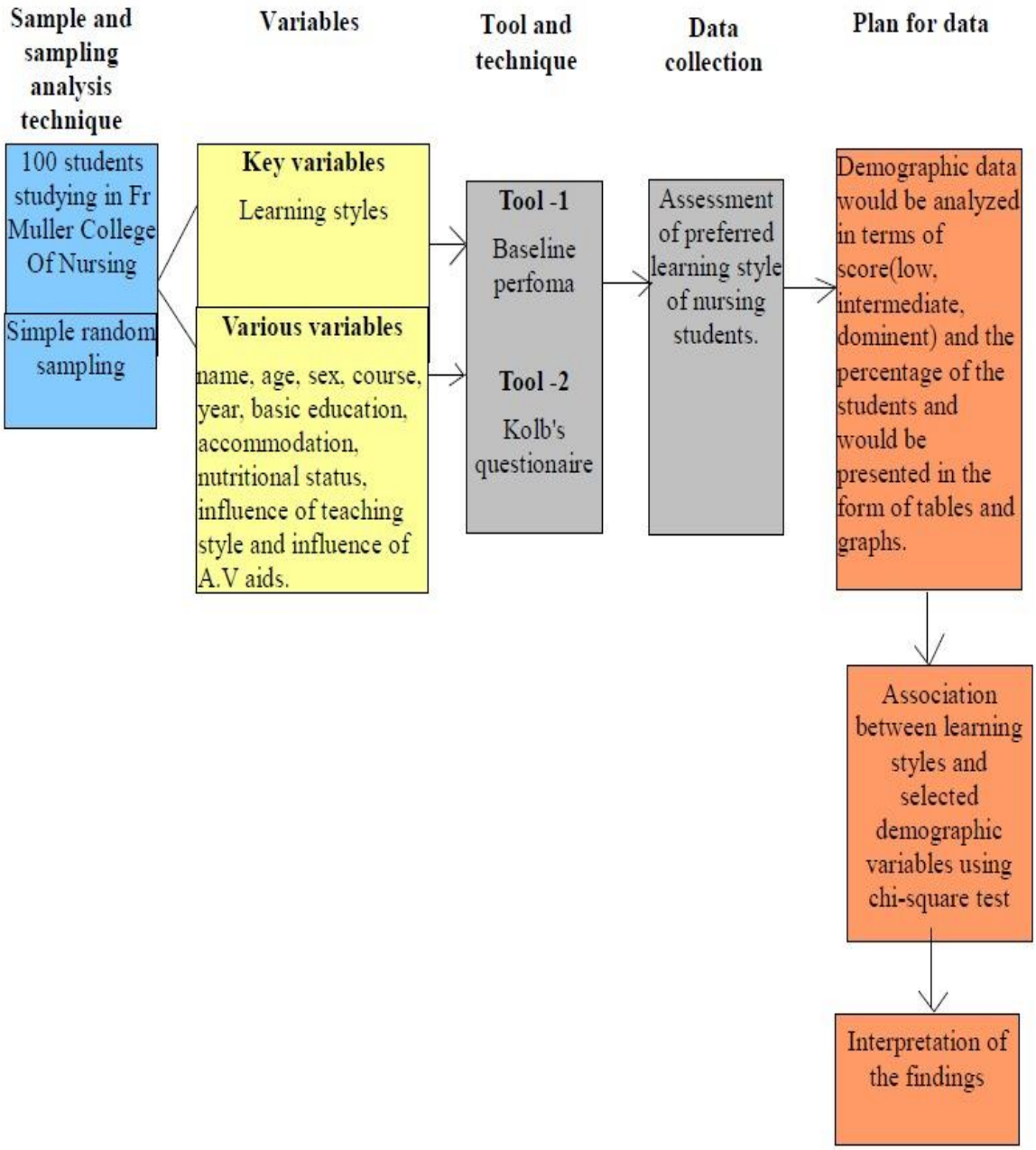
Sampling

In this study the population is 548 nursing students studying at the College of Nursing ie, all the batches of BSc's, Post Basic BSc. and MSc 1 year Nursing students. The sample number of 100 arrived after power analysis. Proportionate random sampling was used to derive the sample size from each class

The quantity d denotes the distance, in either direction, from the population proportion and may be expressed as d = $Z1-\alpha/2\sqrt{P}\ (1-P)/n$. The quantity Z represents the number of standard errors away from mean. The quantity d is termed precision and can be made as small as desired by simply increasing the sample size n. Specifically, if z is chosen to be 1.960, then 95% of all sample proportions will fall within 1.960 standard errors of the population proportion P, where a standard error $\sigma P = \sqrt{P}\ (1-P)/n$. A, p,

Using formula, n = (1.96)2(0.25)/(0.10)2 = 96.04 and rounding up to the nearest integer, a sample of 100 students would be needed in order to be 95% confident of estimating the population proportion. Hence in this study 100 nursing students studying in College of Nursing i.e., all the batches of BSc's, Post Basic BSc. And I MSc Year. Nursing students were selected for the study.

Figure 1: Schematic Representation of research design



Sampling technique

The samples in this study were selected by simple random sampling.
In the simple random sampling method, the sampling units are selected by the means of personal identification number.

Sampling criteria

Exclusion criteria

- II MSc Nursing students.
- Students who were not present during data collection.

Setting

The study was conducted at the College of Nursing, Mangalore.

Instruments

In this study the investigators have used Kolb's learning style inventory to collect information pertaining to the preferred learning styles in the nursing students.

To conduct the study, the tools were prepared by the investigators.

Instrument one: - Characteristics of students structured interview questionnaire.

This instrument was developed by the researcher after a review of related literature (Alharbi et al 2017) It consisted of 10 items for obtaining information regarding name, age, sex, course, year, basic education, accommodation, nutritional status, influence of teaching style and influence of A. V aids. The respondents were requested to fill in the space provided.

Instrument two: - Kolb's learning style inventory

It was developed by Kolb (1984) The Kolb's questionnaire had 10 questions. for each 4 options were provided in which the samples were requested to number these four questions from one to four according to the importance.

Rank order each set of four works (going across) in the 10 items listed below. Assign a 4 to the word which best characterizes your learning style, a 3 to the next best, a 2 to the next, and a 1 to the least characteristic word. Assign a different number to each of the four words. Do not make ties.

The total score was 100.

Reliability and Validity-

The tool was sent for validation to 7 experts in the field of Education. All the experts to agree and Content Validation Index (CVI) is found to be 1.

The tool was tested for reliability by test-retest method. Internal consistency (0.72) and Karl Pearson Correlation co-efficient were used to calculate the reliability (0.75). Hence the tool is reliable to use in this study

Procedure:

The data was collected from the nursing students -hostilities and day scholars- from 29.03.2023 and 30.03.2023 respectively. The investigators obtained written permission from the principal of the College of Nursing. The investigators met the students. Consents from all the students were received. Students were made to sit comfortably. After giving the instructions, the tool was given to them. The average time to complete was 5-10 minutes. The data collection process was terminated by thanking the respondents for their cooperation. The investigators did not face any difficulties in collecting data from participants. The collected data was compiled for analysis.

Results

The analysis and interpretation of the data in the study were based on the collected data through questionnaire from 100 nursing students. Analysis and interpretation were done by descriptive and inferential statistics based on the objectives of the study.

Table 1. Description of sample characteristics

Characteristics	Freq	Percentage
Age in years		
18 yrs	14	14.00%
19yrs	23	23.00%
20yrs	18	18.00%
21yrs	10	10.00%
22 yrs & above	35	35.00%
Influence of Teaching style		
Lecture	78	78%
Seminars	3	3%
Panel discussion	13	13%
Workshop	12	12%
Influence of AV Aids		
LCD	91	91%
Charts	5	5%
Blackboard	25	25%
Flashcard	1	1%
Flip chart	1	1%

In the above table 35% of the sample characteristics are in the age group of 22yrs & above. (23%) belongs to 19yrs, (18%) belongs to 20yrs, (14%) belongs to 18yrs, and (10%) belongs to 21 yrs. Most (78 students) prefer the lecture method, and few prefers panel discussion(13 students),workshops(12 students), and seminars(3students). The majority (91students) prefer LCD. And a few prefer Blackboard (25 students), Charts (5 students), Flash card(1student), and Flip chart(1student).

Assessment of Preferred Learning Styles

Table 2: Distribution of I BSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	21.05%	63.16%	31.58%	52.63%
Intermediate	68.42%	36.84%	68.42%	47.37%
Low	10.53%	0%	0%	0%

Among the 1st year B. Sc. 21.05% of the student's concrete experience is dominant, 68. 42% of the students' concrete experience is intermediate and 10.53% of students have the lowest concrete experience. The concrete experience of most of the students (68. 42%) is intermediate.

Table 3: Distribution of II BSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	**40%**	**45%**	**25%**	**40%**
Intermediate	**55%**	**55%**	**70%**	**55%**
Low	**5%**	**0%**	**5%**	**5%**

Among the II year B. Sc. 40% of the students concrete experience are dominant, 55% of the students concrete experience are intermediate and 5% of students have the lowest concrete experience. The concrete experience of most of the students(55%) are intermediate

Table 4: Distribution of III BSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	44.44 %	22.22%	38.89%	50%
Intermediate	50%	77.78%	61.11%	50%
Low	5.56%	0%	0%	0%

Among the III-year B. Sc. 44. 44% of the students' concrete experience is dominant; 50% of the students' concrete experience are intermediate and 5. 56% of students have the lowest concrete experience. The concrete experience of most of the students (50%) are intermediate.

Table 5: Distribution of IV BSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	**27.78 %**	**38.89%**	**33.33%**	**61.11%**
Intermediate	**61.11%**	**61.11%**	**61.11%**	**38.89%**
Low	**11.11%**	**0%**	**5.56%**	**0%**

Among the IV-year B. Sc. 27.78% of the students' concrete experience are dominant, 61.11% of the students' concrete experience are intermediate and 11. 11% of students have the lowest concrete experience. The concrete experience of most of the students (61.11%) is intermediate.

Table 6: Distribution of I PBBSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	30.77%	15.39%	30.77%	76.92%
Intermediate	53.84%	84.61%	69.23%	23.08%
Low	15.39%	0%	0%	0%

Among the I year PBB.Sc. 30.77% of the students' concrete experience are dominant, 53. 84% of the students concrete experience are intermediate and 15. 39% of students had lowest concrete experience. The concrete experience of most of the students (53. 84%) are intermediate.

Table 7: Distribution of II PBBSc (N) students according to their preferred learning style

Level of learning experience	Concrete Experience	Reflective observation	Abstract Conceptualization	Active Experimentation
Dominant	25 %	62.5%	37.5%	50%
Intermediate	75%	37.5%	62.5%	50%
Low	0%	0%	0%	0%

Among the II-year PBB. Sc. 25% of the students' concrete experience are dominant, 75% of the students' concrete experience is intermediate and none of the students had the lowest concrete experience. The concrete experience of most of the students (75%) are intermediate.

Table 8: Distribution of I MSc (N) students according to their preferred learning style

Level of learning experience	Concrete experience	Reflective observation	Abstract conceptualization	Active experimentation
Dominant	0 %	50%	25%	50%
Intermediate	50%	50%	75%	50%
Low	50%	0%	0%	0%

Among the I year M. Sc. None of the students concrete experience were dominant, 50% of the students concrete experience is intermediate and 50% of students have the lowest concrete experience. The concrete experience of the students is equal between dominant and intermediate(50%).

SECTION 2

Association between preferred learning styles and selected demographic variables.

Variables		>median	≤ median	X2	Inference
Age in yrs a. 18-20 b. > 20	Concrete experience	28	25	0.97	NS
		23	24		
	Reflective observation	26	27	0.168	NS
		25	22		
	Abstract conceptualization	23	30	0.088	NS
		19	28		
	Active experimentation	20	33	2.403	NS
		25	22		
Influence of teaching style a) Lecture b) Others	Concrete experience	40	33	2.298	NS
		8	14		
	Reflective observation	36	39	0.904	NS
		12	8		
	Abstract conceptualization	30	44	1.828	NS
		12	9		
	Active experimentation	32	42	0.127	NS
		10	11		
Influence of AV aids a. LCD b. Others	Concrete experience	30	40	0.186	NS
		5	5		
	Reflective observation	33	38	2.383	NS
		6	2		
	Abstract conceptualization	38	32	2.314	NS
		2	8		
	Active experimentation	33	33	3.79	NS
		3	11		

The chi-square values computed between preferred learning styles and selected baseline characteristics like age, course, medium attended, influence of teaching style and influence of AV aids were not significant at 0.05 level of significance. Hence, null hypothesis is accepted, and research hypothesis is also accepted, and it is inferred that there is no significant association between preferred learning styles and demographic variables like age, course, medium attended, influence of teaching style and influence of AV aids.

DISCUSSION

The findings of this study congruent with the following study findings related to preferred learning styles.

A study was conducted by Mary Rakoczy and Sheila Money to assess the Learning styles of nursing students in Canada. The results have shown that Ist year nursing students on the average selected as their cycle of learning: active experimentation "doing," reflective observation "watching," abstract conceptualization "thinking," and concrete experience "feeling. "Little difference was noted in the learning style selected in year 2 and 3. In years 1, 2, and 3 nursing students' dominant learning style was that of

Assimilator which combines the learning steps of abstract conceptualization (thinking) and reflective observation (watching).

A study was conducted by Heather K. Laschinger and Marvin W. Boss to assess the Learning styles of nursing students and career choices. The results have shown that advanced students had a greater incidence of concrete learning styles than first year students suggesting increasing concreteness with exposure to nursing education. Diploma students were found to have a higher incidence of concrete learning styles than university students. Students with concrete learning styles were more influenced by person-oriented factors in career choices than those with abstract learning styles.

CONCLUSION

The purpose of the study was to evaluate the preferred learning styles of nursing students at a selected college in Mangalore. This study underscores the varied learning style preferences among nursing students in specific colleges in Mangalore. The evaluation indicated that students vary in their preferred learning styles and exhibit a combination of methods that can profoundly influence their educational experiences. Comprehending these preferences is essential for nursing educators, as it allows them to customize their teaching methodologies to more effectively address their students' requirements, hence promoting a more conducive learning environment.

Moreover, the findings underscore the necessity of continuous evaluation of learning styles in nursing education, enabling educators to modify their approaches as needed to enhance student learning outcomes. The appeal for flexible pedagogical approaches aligns with prior studies, affirming that acknowledging and accommodating students' learning preferences can enhance academic achievement and pleasure.

This descriptive study is a crucial advancement in nursing school pedagogy, promoting a deeper comprehension of student preferences, which is critical for developing competent and confident nursing practitioners in the future. Subsequently, additional research on the effects of targeted teaching interventions informed by these learning styles will be crucial in developing effective nursing curriculum.

Recommendations: -

Future study should not only persist in examining learning style preferences but also evaluate the efficacy of educational treatments designed for these preferences.

Consequently, the nursing education system can perpetually adapt to the demands of a dynamic healthcare environment, thereby enhancing the competency of nursing graduates.

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