Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/18206
DOI URL: http://dx.doi.org/10.21474/IJAR01/18206

RESEARCH ARTICLE

A DESCRIPTIVE STUDY TO ASSESS THE LEARNING STYLES ADOPTED BY UNDERGRADUATE NURSING STUDENTS AT SELECTED COLLEGE, BENGALURU

Mr. Syam Mohanlal[1], Mr. Vasantha Malagi[2], Ms. Jenisha Wilson[3] and Mr. Umer Hamid[3]

1. Associate Professor, Smt Nagarathnamma College of Nursing.
2. Associate Professor, Smt Nagarathnamma College of Nursing.
3. Assistant Lecturer, Smt Nagarathnamma College of Nursing.
4. Assistant Lecturer, Smt Nagarathnamma College of Nursing.

Manuscript Info

Manuscript History
Received: 17 November 2023
Final Accepted: 23 December 2023
Published: January 2024

Abstract

Background: Learning styles refer to an individual's preferred way of acquiring and processing information. Understanding a student's learning style can be crucial for optimizing educational outcomes. In nursing education, catering to diverse learning preferences can enhance student engagement and prepare them for the complex demands of the profession. This study aimed to investigate the learning styles and their relationship with study variables among undergraduate nursing students.

Methods and Materials: A descriptive cross-sectional design was employed. The study was conducted at a selected college in Bangalore, India. A total of 105 undergraduate nursing students were recruited, stratified by their year of study, and selected through proportionate random sampling. Participants completed the Inventory of Learning Styles (ILS) questionnaire, which assesses four learning styles: undirected, application-directed, reproduction-directed, and meaning-directed. Additionally, data on their age, gender, marital status, place of residence, pre-university percentage, preferred medium of instruction, average study hours, and average writing assignment hours were collected. Descriptive statistics, including mean, standard deviation, frequency, and percentage, were computed for the learning style scores and demographic variables. Chi-square tests were used to analyse the association between learning styles and selected demographic variables, while Pearson correlation coefficients were calculated to examine the relationship between age and learning styles.

Results: The findings revealed that students utilized a variety of learning styles, with the majority favouring undirected (64.34%), application-directed (74.24%), reproduction-directed (63.47%), and meaning-directed (65.26%) styles. Interestingly, no significant correlation was found between age and any of the learning styles (all p-values > 0.05). Moreover, the chi-square analysis indicated an association between average hours of study and average hours of writing assignments with the reproduction-directed learning style at the 0.05 level of significance.

Corresponding Author:- Mr. Syam Mohanlal
Address:- Associate Professor, Smt Nagarathnamma College of Nursing.

Conclusion: This study highlights the diverse learning preferences among undergraduate nursing students, regardless of their age. Educators in nursing programs should incorporate diverse pedagogical approaches that cater to these different styles to optimize learning outcomes and adequately prepare students for the challenges of the nursing profession. Further research with larger sample sizes could delve deeper into the factors influencing learning styles in this population and provide even more valuable insights for educational design.

……

Introduction:-

Learning occupies a very important place in human life. It is a lifelong process. Learning is said to be equivalent change, modification, development, improvement, and adjustment. [1]Learning is the process whereby knowledge is created through the transformation of experience. This definition emphasizes several critical aspects of the learning process as viewed from the experiential perspective.[2]Learning is an interactive process and the product of student and teacher activity within a learning environment.[3]The term learning style 'is originated from educational studies conducted in the 1970s. One of the reasons for the invention of this term is that learning styles have practical application particularly in the areas of teaching and learning.[7]Students' learning styles are a major consideration in planning for effective and efficient learning. Research suggests that successful teaching acknowledges the existence of individual differences in the teaching and learning process and whenever possible, tailors the style of instruction to the learner's needs.[4-6]

Need For The Study

Understanding and updating our knowledge about the learning styles of undergraduate nursing are becoming increasingly important as the students become more and more diverse and are being taught using a large array of pedagogical approaches.[10-13]

As per a study conducted in Western Nigeria on students' performance in selected schools of nursing reveals that the performance scores range from 62.4% and 89.2%.[14.] Another study done in Philippians on predictors of performances in professional nursing courses identifies that the respondents had a mean score of below 80.[15]

Decision making is an important daily nursing activity. Many researches have showed that the clinical competence and decision-making skills are significantly lower in newly graduate nurses. A study on clinical decision making of nurse's states majority of nurses rated their decisional difficulty.[19-20]Studies have also identified learning needs for nurses as they cannot meeting expectations included initiating independent nursing interventions.[16-18]

Understanding students 'learning styles helps educators to design the curriculum and aids the teaching process in higher education, which may promote students 'learning. Studies have suggested that teaching strategies should match with students 'learning styles to foster a better learning environment, influence student performance as well as higher grade-point averages can be achieved when the instructional strategies are congruent.19-21

Materials and Methods:-

Researcher adopted a cross-sectional design for the study. The study was approved by the Institutional Ethics Committee. The data collection process is done in 3 phases. Phase-I: The data collection was scheduled on 28.11.2016. Prior permission was obtained from concerned authority of smt. Nagarathnamma college of nursing, Bangalore.Phase-II: Disproportionate stratified random sampling was used to select 105 undergraduate nursing students who met the inclusion criteria and were divided into 4 strata based on their level of study. From each strata 30 subjects is selected using simple random sampling method by online sample generator. Due to drop outs and incomplete responses final sample size obtained was 105 (28 students from Ist year, 26 students from IInd year, 26 students from IIIrd year and 25 students from IVth year).Phase-IIIBefore administering the questionnaire the purpose of the study was explained to the students and a written consent was obtained from them.

The tool was used in this study is Inventory of learning styles (ILS). (Jan D Vermunt 1994). ILS consists of 100 statements concerning higher education studies and studying which are rated in five-point scale. It assesses learning strategies under four factors. They are Undirected, Reproduction Directed, Application Directed, Meaning Directed. The participants indicate their response on scale from 1 to 5. Individual scores are summated to identify the learning styles and the mean scores of each learning style indicate their usage by the students in the process of learning.

Students class room were used for the data collection and privacy was.The students took an average time of 25 to 30 minutes for the completion of questionnaire. The investigator got co-operation from the students.

Table 1:- Frequency and percentage distribution of undergraduate nursing students according to age, gender, marital status and place of residence, PU percent, medium of instructions, average study hours and writing assignments **n = 105**

Sl.No	Demographic variables	Number	Percentage (%)
1.	**Age (in yrs)**		
	a) 17-19yrs	43	41.0
	b) 20-22yrs	58	55.2
	c) 23-25yrs	4	3.8
2.	**Gender**		
	a) Male	15	14.3
	b) Female	90	85.7
3.	**Marrital status**		
	a) Married	3	2.9
	b) Unmarried	102	97.1
4.	**Place of residence**		
	a) Hostel	67	63.9
	b) Home	18	17.1
	c) Paying guest	20	24
5.	**Pre-University percentage**		
	a) 50-60%	17	16.2
	b) 61-70%	44	41.9
	c) 71-80%	33	31.4
	d) 81-90%	11	10.5
6.	**Preferred Medium of instruction**		
	a. English	84	80.0
	b.regional language/mother tongue	21	20.0
7.	**Average Hours of study**		
	a) 3-5hrs/week	54	51.4
	b) 6-8hrs/week	36	34.3
	c) 9-11hrs/week	12	11.4
	d) >_12hrs/week	3	2.9
8.	**Average Hours of writing assignment**		
	a) 3-5hrs/week	47	44.8
	b) 6-8hrs/week	38	36.2
	c) 9-11hrs/week	15	14.2
	d) ≥12hrs/week	5	4.8

Table 1 shows

Age:

Young demographics, with most students (55.2%) between 20-22 years old. Gender: Predominantly female (85.7%), with a smaller male population (14.3%). Marital Status: Overwhelmingly unmarried (97.1%). Living Arrangements: Majority reside in hostels (63.9%), with smaller groups living at home (17.1%) or as paying guests (24.0%). Academic Background: Most scored between 61-70% in pre-university exams (41.9%). Language Preference: English is the preferred medium of instruction for most (80.0%), with some favoring their native language (20.0%).

Study Habits: Most dedicate 3-5 hours per week to studying (51.4%). Writing Habits: Similar time distribution for writing assignments, with most spending 3-5 hours per week (44.8%).

This data reveals a young, female student population who primarily live in hostels, demonstrate moderate academic performance, and favour English as their learning medium. While most dedicate moderate time to studying and writing, there is still a range of individual study habits.

Table 2:- Distribution of mean scores of learning styles adopted by undergraduate nursing students.

Sl No.	Learning styles	Questions	Score range		Mean Score	Mean score (%)	Standard deviation
			Min	Max			
1.	Undirected	20	20	100	64.34	64.34	8.12
2.	Application directed	20	20	100	74.24	74.24	10.93
3.	Reproduction directed	30	30	150	95.21	63.47	13.59
4.	Meaning directed	30	30	150	97.90	65.26	13.66

Table 2Represents the average score obtained by students for each learning style. For instance, the mean score for Undirected is 64.34, for Application directed is 74.24, for Reproduction directed is 95.21, and for Meaning directed is 97.90.

Mean Score (%):Indicates the mean score as a percentage of the maximum possible score. This gives a relative measure of how well students performed on average for each learning style. For example, Undirected has a mean score percentage of 64.34%, Application directed has 74.24%, Reproduction directed has 63.47%, and meaning directed has 65.26%.

Standard Deviation:Measures the amount of variation or dispersion of scores around the mean. A higher standard deviation suggests greater variability among individual scores. In this table, Undirected has a standard deviation of 8.12, Application directed has 10.93, Reproduction directed has 13.59, and meaning directed has 13.66.

Table 3:- Correlation between learning styles and age of undergraduate nursing students n=105.

Sl No.	Learning styles	Age	P value
1.	Undirected	+0.017	0.73
2.	Application directed	-0.055	0.81
3.	Reproduction directed	+0.079	0.69
4.	Meaning directed	-0.082	0.95

Table 3 depicts that all the four learning styles namely undirected learning style(r=+0.017), application directed learning style(r=-0.055), reproduction directed(r=+0.079) and meaning directed(r=-0.082) have negligible correlation with the age of undergraduate nursing students.

None of the learning styles show a statistically significant correlation with age in this sample. Therefore, there is no evidence to suggest that age plays a meaningful role in shaping the preferred learning styles of undergraduate nursing students.

All p-values are above 0.05, which indicates that the observed correlations are likely due to chance and not indicative of a true relationship between age and learning style preference.

Chi square test was used to find an association between learning styles and selected socio demographic variables. Study showed that average hours of study($\chi 2$=0.046) and average hours of writing assignments($\chi 2$=0.02) is found to have association with reproduction directed learning style at 0.05 level of significance.

Discussion:-

It is generally acknowledged that learning styles indicate an individual's preferred way of learning or how the individual acquires information. Learning styles also influence the way in which learners master the goals and objectives of an educational programme.6 In any student population student diversity is apparent in their preferred style of learning, or the mode in which they take in information.[21]

The present study reveals that the nursing students use different types of learning styles, Undirected learning style(64.34%), Application directed learning style(74.24%), Reproduction directed learning style(63.47%), Meaning directed learning style(65.26%) which is supported by the study conducted by Jan D Vermunt at Portugese college. Vermunt Learning Styles Inventory and a demographic questionnaire was administered. The study results revealed Meaning directed learning style represents about 29% of the entire sample, Application directed learning style roughly stands for 31%, the Reproduction directed learning style for approximately 28%, and finally, the Undirected learning style in the order of 12% of the respondents.[22]

The present study is also supported by a study conducted on nursing students in La Trobe University, Australia by Terri A Meehan which shows that the most favoured strategy was practical sessions(68%) which relates with the application directed learning style.[23]

The present study shows that there is no relationship between age and learning styles of undergraduate students which is supported by a study conducted at four schools of nursing in 2011 by Amy C Pettigrew which revealed that there were no significant differences between programs or age groups in preferred learning styles. [17]

The present study confirms that undergraduate nursing students utilize a variety of learning styles, with significant usage of undirected, application-directed, reproduction-directed, and meaning-directed styles. These findings align with previous research by Vermunt, Meehan, and Pettigrew, highlighting the diverse learning preferences within nursing student populations. Relationship study variable's and Learning Styles: Interestingly, the current study found no significant correlation between age and preferred learning styles among undergraduate nursing students. This aligns with Pettigrew's study, suggesting that age might not be a major factor influencing learning style preferences in this context.

Implications:
Recognizing the prevalence of various learning styles among nursing students is crucial for educators. Pedagogical approaches should incorporate diverse styles to cater to individual learning preferences and optimize learning outcomes. Further research with larger sample sizes can solidify the understanding of factors influencing learning styles in nursing education.

Nursing students use various learning styles (undirected, application-directed, etc.) like other research found. Their age does not seem to affect their preferred style, suggesting educators should design diverse teaching methods to cater to different learners.

References:-

1. Taneja v. educational thought and practice. Sterling publishers pvt.ltd; available from: 3-5
2. Manolis c, burns dj, assudani r, chinta r. Assessing experiential learning styles: a methodological reconstruction and validation of the kolb learning style inventory. Learn individ differ. 2013; 23:44–52. Available from: http://dx.doi.org/10.1016/j.lindif.2012.10.009
3. Li y, chen h, yang b, liu c. Nurse education today an exploratory study of the relationship between age and learning styles among students in different nursing programs in taiwan. Ynedt. 2011;31(1):18–23. Available from: http://dx.doi.org/10.1016/j.nedt.2010.03.014
4. Elakuana bhaskararaj nb. Text book of nursing education. 2013. p201-207.
5. James, w.; gardner d (1999). "Learning styles: implications for distance learning. New dir adult contin educ. :67.
6. Fleming s, mckee g, huntley-moore s. Nurse education today undergraduate nursing students 'learningstyles: a longitudinal study. Ynedt [internet]. 2011;31(5):444–449. Available from: http://dx.doi.org/10.1016/j.nedt.2010.08.005
7. Baraz s, memarian r, vanaki z. Nurse education in practice the diversity of iranian nursing students ' clinical learning styles : a qualitative study. Nurse educ pract [internet]. 2014;1–7. Available from: http://dx.doi.org/10.1016/j.nepr.2014.03.004
8. Sandover s, jonas-dwyer d, marr t. Graduate entry and undergraduate medical students 'study approaches, stress levels and ways of coping: a five-year longitudinal study. Bmc med educ [internet]. 2015;1–11. Available from: http://creativecommons.org/licenses/by/4.0
9. Pettigrew amyc, diengermj, king mob. Nursing students today: who are they and what are their l earning p references ? J prof nurs. 2011;27(4):227–236.

10. Amore ad, james s, mitchell ekl. Nurse education today learning styles of first-yearundergraduate nursing and midwifery students: a cross-sectional surveyutilising the kolb learning style inventory. Ynedt [internet]. 2012;32(5):506–515. Available from: http://dx.doi.org/10.1016/j.nedt.2011.08.001
11. Samarakoon l, fernando t, rodrigo c, rajapakse s. Learning styles and approaches to learning among medical undergraduates and postgraduates. Bmc med educ [internet]. 2013;13(1):1. Available from: http://www.biomedcentral.com/1472-6920/13/42
12. Edward mi, nursing ms. Relationship between school quality and students 'performance in selected schools of nursing in south-western nigeria. 2013;3(1):37–46.
13. Oducado rmf, penuela ac. Predictors of academic performance in professional nursing courses in a private nursing school in kalibo , aklan , philippines in. 2014;1(5):21–28.
14. Robles j, cox cd, seifert cf. The impact of preceptor and student learning styles on experiential performance measures. Am j pharm educ. 2012;76(7):1–7.
15. Seright tj. Clinical decision-making of rural novice nurses. Rural remote health. 2011;11.
16. Hoffman ka, aitken lm, duffield c. A comparison of novice and expert nurses'cue collection during clinical decision-making: verbal protocol analysis. Int j nurs stud. 2009; 46:1335–1344.
17. Fero lj, witsberger cm, wesmiller sw, zullo tg, hoffman l a. Critical thinking ability of new graduate and experienced nurses. J adv nurs [internet]. 2009;65(1):139–148. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/pmc2729546/pdf/nihms125432.pdf
18. Sand-jecklin k. The impact of active / cooperative instruction on beginning nursing student learning strategy preference. Nurse educ today. 2007; 27:474–480.
19. Shya w. Learning styles of undergraduate and graduate physical therapy students in taiwan. Procedia - soc behav sci [internet]. 2013; 93:1254–1258. Available from: http://dx.doi.org/10.1016/j.sbspro.2013.10.024
20. Boyle ea, duffy t, dunleavy k. Learning styles and academic outcome: the validity and utility of vermunt ' s inventory of learning styles in a british higher education setting. Br journel educ psychol. 2003; 73:267–290.
21. Meehan-andrews ta. Teaching mode efficiency and learning preferences of first year nursing students. Nurse educ today [internet]. 2009;29(1):24–32. Available from: http://dx.doi.org/10.1016/j.nedt.2008.06.007
22. Abdollahimohammad a, ja r. Journal of educational evaluation for health professions learning style preferences of nursing students at two universities in iran and malaysia. 2014;5937.
23. Vermunt jd, vermetten yj. Patterns in student learning: relationships between learning strategies, conceptions of learning, and learning orientations. 2004;16(4):359–384.