

How Do the Learning Strategy and Outcome Knowledge Correlate among Nursing Students

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Abstract

The present was conducted among 2nd year BSc Nursing Students from a selected Nursing College of Thiruvalla (Kerala) in 2022. The objectives of the study were to assess the Learning Strategy of Nursing Students using Modified Mona Dahms and Hans Peter Christensen Tool (2005), to assess the outcome knowledge based on the internal exam scores and to correlate the Learning Strategy with the outcome knowledge. A descriptive correlational research design and purposive sampling technique were used to conduct the study. The data were collected to assess the learning strategy and internal assessment marks obtained for physiology subject during 1st year academic period. Data was analysed using descriptive statistics. Most of the 40 participants (52.50%) were using Surface Learning Strategy and 37.50 percent had an outcome knowledge score of 50-59 percent. There was a positive correlation ($r=0.834$) between the learning strategies adopted and outcome knowledge score which was significant at $p<0.01$ level of significance. To conclude, considering positive and significant correlation between learning and study strategies with academic achievement in nursing students, students and teachers use these strategies to improve academic achievement and reduce the academic loss of students.

Key words: Learning strategy, Outcome knowledge, Nursing students

A learning strategy is an individual's way of organizing and using a particular set of skills to learn content or accomplish other tasks more effectively and efficiently in academic settings. Learning strategy instruction focuses on strategies that facilitate the active learning process to learn and to use what they have learned to solve problems and be successful (Dolmans et al, 2016).

Students approach their learning in different ways, operating in response to a series of motivations, internal and external to themselves. Learning strategies are of two types. Surface learning is to accept new facts and ideas uncritically and attempting to store them as isolated, unconnected items. Deep learning is when the new facts and ideas are examined critically and putting them into existing cognitive structures and making links between ideas. The concept of deep and surface learning grew out of the research of Marton and Saljo in 1976 (Janardan et al, 2021). The terms describe the way students tackle their learning. Learners may use deep or surface strategies, or a combination of both throughout their studies.

Different approaches to learning can exert considerable influence on the learning process in Nursing Education. Students' motivation, educational strategies, types of assessment and different learning approaches are factors that are considered fundamental to Nursing Education. They have an important influence on learning process. Successful and sustained learning is therefore mandatory for a better knowledge outcome (Fatehmeh et al, 2015).

Need for the study

Universities are facing challenges today in educating students to become life-long learners and versatile experts in their own fields. Fostering and stimulating the development of lifelong learning skills such as problem solving and critical thinking has become a crucial goal of higher education in the twenty-first century (Alsayed et al, 2020). According to the Bologna declaration, successful learning and studying in higher education should involve students in deep learning. Dinsmore & Alexander state that if research on students' learning is going to have any bearing on practice, one area in need of critical discussion is the investigation of deep and surface learning (Marton & Saljo, 1976).

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Teachers are generally aware that there are a number of learning strategies that students can select and employ. However, it is not clear on what basis students select certain strategies and why they prefer them instead of others. It is also true that educators are curious about the relationship between the use of strategies and generating various learning outcomes such as achievement, perseverance, and attitudes. One may ask if there is a meaningful correlation between the use of certain strategies and academic performance or if the past achievement levels of students influence their choice of strategies. All these questions are critical and answers are worth to know for producing successful learning (Ali & Jale, 2010).

Review of Literature

A cross-sectional descriptive analytic approach was used to investigate the learning strategies adopted and explore the differences in the use of learning strategies due to gender and academic achievement among 365 students in the College of Education at in Saudi Arabia in 2022 (Almoslaman 2022). The participants of the study were selected using the cluster sampling technique. The study adopted the higher education version of the brief “ACRA-C” learning strategies scale by Jiménez et al (2017) to collect the data. The results showed that the female participants reported a significantly higher level of use overall ($M=3.24$; $t(363)=5.689$, $p=0.000$) and also for each category of strategies: microstrategies ($M=3.28$, $SD=0.504$; $t[363]=3.79$, $p=0.000$), keys of memory and metacognition ($M=3.26$; $t[363]=4.65$, $p=0.000$), emotional and social support ($M=3.21$; $t[363]=3.75$, $p=0.000$), study habits ($M=3.24$; $t[363]=3.75$, $p=0.000$), when compared to the male participants. The study revealed that micro strategies and study habits are the most preferred strategies by Saudi university students. Statistically significant differences in the use of learning strategies were found between male and female students in favour of the female students. The study also found that learning strategies are a significant predictor of students' academic achievement.

A quantitative-comparative-correlational study design was conducted to investigate the differences between Nursing Students' surface and deep approaches to learning among 349 Bachelor of Science in Nursing (BSN) students at the University of Hail, Saudi Arabia from December 2019 to February 2020 (Alsayed et al, 2010). Probability random sampling method was used to select the samples. Bigg's revised two-factor Study Process Questionnaire (R-SPQ-2F) was used to collect the data. A significant difference in the deep learning approach was noted for age [$F(3, 345)=35.71$; $p=0.01$] and programme type (bridging/regular) [$t(347)=-8.81$, $p=0.01$]. A moderately positive significant correla-

tion was found between age and both deep ($r=0.47$, $n=349$, $p=0.01$) and surface ($r=0.45$, $n=349$, $p=0.01$) learning approaches. This study showed that nursing students use both surface and deep learning approaches alike and are able to capitalise on either learning style. Both learning approaches are important and valuable in nursing education. The age of the student is correlated with the learning approach.

Objectives

The study was carried out with following objectives.

- To assess the Learning Strategy of nursing students using Modified Mona Dahms and Hans Peter Christensen Tool.
- To assess the outcome knowledge based on the internal exam scores.
- To correlate the Learning Strategy with the Outcome Knowledge.

Hypothesis

H1- There will be a significant relationship between the learning strategy and the outcome knowledge of the Nursing Students.

Methodology

A descriptive correlational research design was adopted for the study to correlate the Learning Strategy and Outcome Knowledge among 2nd year BSc Nursing Students from a selected Nursing College, Thiruvalla. The study population comprised 255 nursing students of selected nursing colleges and 40 students studying in 2nd year BSc Nursing course was selected as sample by convenient sampling technique. The tool for the data collection was divided in to two sections. Section A consisted of baseline variables of the participants such as age, percentage of marks in plus two examinations, interest in studying nursing, satisfaction of first year education experience. Section B consisted of Modified Mona Dahms & Hans Peter Christensen (2005) tool and it included a 5-point rating scale with 20 statements to assess the learning strategy used by the students. The outcome knowledge was assessed based on internal assessment marks obtained for physiology subject during 1st year academic period and the scores were divided in to 4 categories (poor <50%, average 50% to 59%, good 60% to 69%, excellent 70-79%). After obtaining written consent from the participants, the tool was administered and they took 15 minutes to mark their responses and returned the same to the researcher. The data obtained were analysed using descriptive & inferential statistics.

Sampling Criteria

Inclusion criteria: Second Year BSc Nursing stu-

Table 1: Frequency and percentage distribution of participants based on baseline variables (N=40)

Sl. No.	Baseline variable	Frequency (f)	Percentage (%)
1	Age in years		
	19	7	17.5
	20	28	70
	21	4	10
2	Percentage of marks in plus two examinations		
	70-79	4	10
	80-89	17	42.5
	90-99	19	47.5
3	Interest in studying Nursing		
	Yes	39	97.5
4	Satisfaction of 1st year education experience		
	Yes	38	95
	No	2	5

dents, who attended all the 1st year sessional exams who were present during the data collection period.

Exclusion criteria: Second Year BSc Nursing students, who are not willing to participate in the study.

Ethical consideration: Ethical clearance from ethical committee and permission from TMM College of Nursing was obtained. Informed consent was taken from the participating students. Privacy and confidentiality of the samples were maintained. Subject had the right to discontinue from the study if they wished to do so.

Results

Table 1 shows that, 70 percent of the participants were from 20 years age group, 47.5 percent were obtained 90-99 percent marks in plus two examinations, 97.5 percent were interested in studying nursing, 95 percent were satisfied with their first-year education experience and 5 percent not satisfied due to online platform of teaching.

Figure 1 shows that most of the participants (52.5%) were using surface learning strategy only.

Figure 2 shows that, most of the participants (37.50%) were having an outcome knowledge score of 50-59 percent.

The calculated chi square value was 14.008 at degree of freedom of 6. It was more than the chi square value tabulated (12.59) at $p < 0.05$ (Table 2). It reveals that there is a significant relationship between the learning strategy and the outcome knowledge of the nursing students.

The correlation coefficient obtained was 0.834 at $p < 0.01$, and thereby the learning strategy used by the students and outcome knowledge had a positive correlation (Table 3).

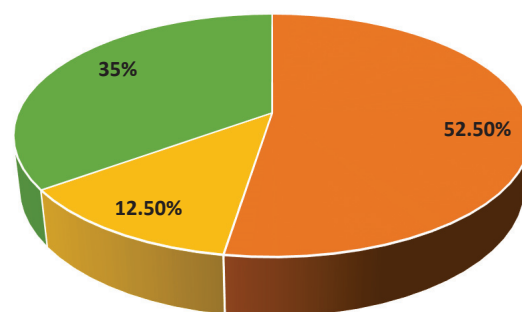
Discussion

The present study was a descriptive correlational research design conducted to correlate the Learning Strategy and Outcome Knowledge among 2nd year BSc Nursing students from a selected nursing college, Thiruvalla. The study revealed that 52.50 percent were using Surface Learning Strategy and 37.50 percent had an outcome knowledge score of 50-59 percent. There was a positive correlation ($r = 0.834$) between the learning strategies adopted and outcome knowledge score which was significant at $p < 0.01$ level of significance.

A similar descriptive correlational study was conducted to assess the relationship between learning strategies adopted and outcome knowledge among 48 4th year BSc Nursing Students at VHS-MA Chidambaram College of Nursing (Tamil Nadu) in 2021. Nursing students who had completed their training in midwifery were selected using non probability purposive sampling technique. The study revealed that 81.2 percent of the nursing students adopted both the learning strategies. 54.1 percent of the nursing students had outcome knowledge score between 60-69 percent. There was a positive correlation ($r = 0.333$) between the learning strategies adopted and outcome knowledge score which was significant at $p < 0.05$ level of significance. The study concluded that the strategies adopted by the students vary and it has influence on the outcome knowledge (Parra, 2016).

Limitations

- The size of the samples was too small to draw generalisation.
- The study samples were limited to 2nd year BSc Nursing students from a selected college of nursing.
- Only two learning strategies (surface & deep learning strategy) were included in this study. Other learning strategies such as strategic learning, divergent learning style etc. were not considered.



■ surface learning only ■ deep learning only ■ both
Learning Strategies

Figure 1: Frequency & percentage distribution of participants based on their learning strategy.

Table 2: Relationship of the learning strategy with outcome knowledge (N=40)

Learning strategy	Outcome knowledge				df	X ²
	<50%	50-59%	60-69%	70-79%		
Surface learning	6	12	2	1	6	14.008*
Deep learning	1	1	1	2		
Both	2	2	6	4		

*Significant at p<0.05

Table 3: Correlation between the learning strategy with outcome knowledge (N=40)

Learning strategy	Outcome knowledge				Correlation coefficient
	<50	50-59	60-69	70-79	
Surface learning	6	12	2	1	0.834**
Deep learning	1	1	1	2	
Both	2	2	6	4	

**Positive correlation at p<0.01

- Long-term follow-up could not be carried out due to time constraints.

Recommendations

- A similar study can be conducted on a large sample which may yield more reliable result.
- A similar study can be undertaken to assess the effectiveness of a particular learning strategy.
- A comparative study can also be conducted between deep and surface learning strategy to determine which one is effective.

Nursing Implications

The present study has implications in the field of nursing practice, nursing administration, nursing education and nursing research. If they study the theory thoroughly, they can apply it in their clinical experience and also assess the learning strategies used in the nursing practice. The nurse

administrators can assess and motivate the nurses to use a particular learning strategy. The nurse educator should know about different learning strategies. They can motivate the students to use appropriate learning strategy. Help the students to identify which learning strategy they are using. Emerging researchers can utilise the present study for reference. The results of the study have opened up avenues for further studies and dissemination of studies will improve the knowledge of the nursing students.

Conclusion

This study attempted to correlate the learning strategy with the outcome knowledge among 2nd year BSc Nursing Students from a selected College of Nursing, Thiruvalla (Kerala). There was a positive correlation ($r=0.834$) between the learning strategies adopted and outcome knowledge score which was significant at $p<0.01$ level of significance. Considering positive and significant correlation between learning and study strategies with academic achievement in nursing students, students and teachers use these strategies to improve academic achievement and reduce the academic loss of students.

References

1. Dolmans, DHJM, Loyens, SMM, Marcq H Gigbels D. Deep and surface learning in problem-based learning: A review of the literature. *Adv in Health Sci Educ* 21(5): 1087-1112
2. Janardan R, Sudha R, Chitra R. Correlation of learning strategies adopted with outcome knowledge among nursing students. *TNNMC JNEA* 2021; 9(1): 4-8
3. Fatemeh A, Neda P, Mohammad H, Fariba H. Learning theories application in nursing education. *Journal of Education & Health Promotion* 2015; 4: 2
4. Marton F, Säljö R. On qualitative differences in learning: Outcome and process. *British Journal of Educational Psychology* 1976; 46: 4-11
5. Ali S, Jale B. Learning Strategies of Successful and Unsuccessful University Students. *Contemporary Educational Technology*, 2010; 1(1): 36-45
6. Almoslamani Y. The impact of learning strategies on the academic achievement of university students in Saudi Arabia. *Learning and Teaching in Higher Education: Gulf Perspectives*. V:18, n1: 4-18
7. Alsayed S, Alshammari F, Pasay-An E, Dator WL. Investigating the learning approaches of students in nursing education. *J Taibah Univ Med Sci* 2020; 10: 16(1): 43-49
8. Parra BJ. Learning strategies and styles as a basis for building personal learning environments. *International Journal of Technology & Higher Education* 2016; 13(1): 1-12

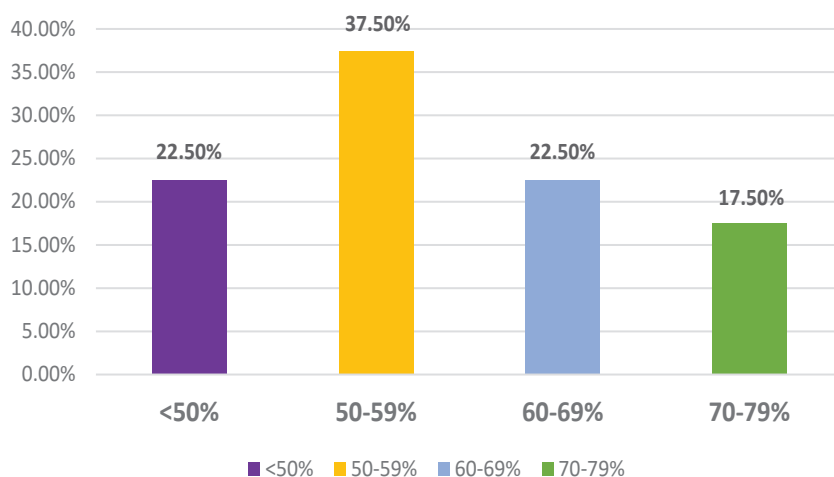


Figure 2: Frequency & percentage distribution of participants based on their outcome knowledge.