A Research Study on Traditional Versus Brain based Learning: Opinion of Nursing Students

Mrs. Kirti Mangesh Jamdar[1], Dr. Mrs. Prabha Dasila[2]

[1] Ph.D. Scholar
MGM Institute of Health Sciences.
Sector -1. Kamothe, Navi Mumbai.
India 410209
kirti.tawsalkar@gmail.com

[2] Professor & Director, MGM New Bombay College of Nursing
MGM Institute of Health Sciences
Sector -1. Kamothe, Navi Mumbai.
India 410209

ABSTRACT

To improve, change or delete any practice or any methodology feedback is very important. Feedback shows us the mirror of what is exactly done and what need to be actually done. Feedback can be taken in various forms. Nursing field is based on both theory and practical. The nursing teacher teaches a particular topic and then also implements the demonstration related to that topic so that the students can implement the same in the clinical area in the actual patient setting. Feedback imposes either positive or negative impact on the learning or achievement[1]. In this research researcher used quantitative approach and exploratory survey design.

Key Words: Opinionnaire, Traditional teaching, Brain Based Learning.

INTRODUCTION

In this research, the researcher wants to get the feedback in the form of Opinionnaire related to the topic which was taught using two different methodologies, i.e. traditional method and Brain Based Learning. The researcher intends to help in improving the quality of teaching by getting the student's opinion regarding both the teaching methodologies and compare it within the study and control group for both theory and the clinical teaching.

OBJECTIVES

To compare the opinion of the Nursing students related to Traditional Versus Brain Based Learning

ASSUMPTIONS

1. Opinion of the students may vary from individual to individual.
2. Opinionnaire is an accepted tool to get the feedback.

RESEARCH METHODOLOGY

Research Approach: Quantitative approach.

Research Design: Exploratory Survey design.

Setting: Selected colleges of Nursing in Mumbai.

Population: Students from selected nursing colleges in Mumbai.

Sample: Students who had participated as the samples for the study related to the implementation of Traditional and Brain Based Learning.

Sample Size: 143

Sampling Technique: Non-Probability Convenience Sampling.

Criteria for sample selection:

Inclusion criteria:

1.   Willing to participate in the study.
2.   Samples for the study related to the implementation of Traditional and Brain Based Learning.
3.   Able to access the survey form via internet.

Tool: 3-point Likert Scale

Technique: Self reporting

DATA COLLECTION

The instrument in this study was an online survey that was used to gather data from 143 participants, from within the different nursing institutions from Mumbai under Maharashtra University of Health Sciences. Participants consent was approved through emails and what's app and accordingly the link of the tool was forwarded to them. The participants completed this 15

min Opinionnaire and submitted to the Researcher online itself. The study was conducted in a manner that protected the confidentiality of the participants. Survey items were developed based on an extensive literature review. The study gathered quantitative data to answer the research questions.

TOOL

This study is carried out to explore the opinion of the nursing students who had been the samples for the study which used traditional teaching vs. Brain Based Learning in teaching Critical Care Nursing. There were in all 46 items which were divided under the following headings: Introduction, Objectives, Content Coverage and Relevance, Methodology, Assessment, Teaching Aids, Teacher Student Relationship and Clinical Implications. Validity: The validity of the tool was established by sharing the tool with eight experts from the Nursing field and 4 experts from the field of Education. The suggestions given by the experts were implemented after discussion with the guide. This way the validity of the tool was established. Reliability: Reliability was established using Internal Consistency and Cronbach's alpha value was calculated. The score was 0.82 showing good reliability.

DATA ANALYSIS

Results:

As per the objective of the study the data between the study and the control group participants was compared item wise.

Overall, 143 students participated in the survey. Out of which 70 were from the study group 73 were from the control group.

Demographic variables:

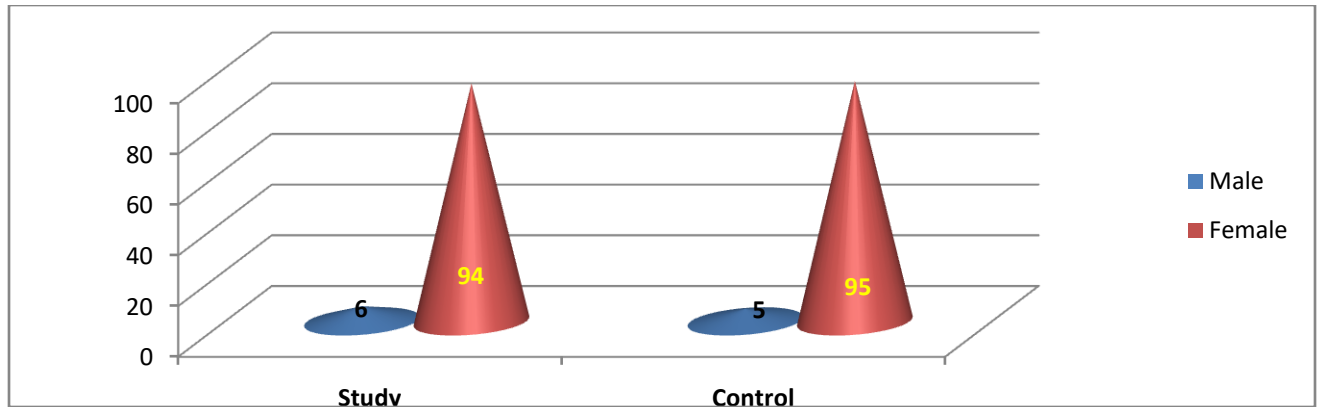1) **Distribution of sample on basis of Gender:**

Fig: 1: Distribution of sample with respect to gender:

From the above figure number 1, it is evident that majority of the samples in both study and control group were female, Study consisted 66 students i.e., 94 percent and control group had 70 students that contributes to 95% of the total sample who were females. This supports that nursing is a female dominated profession.
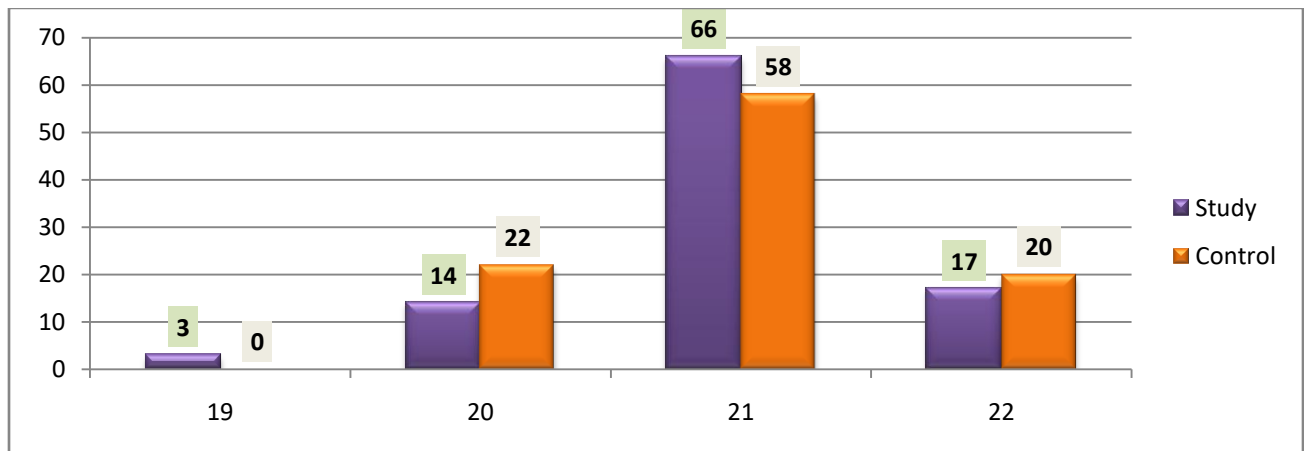
2) **Distribution of sample on basis of Age in years.**

Fig: 2: Distribution of sample with respect to Age in years:

The above figure depicts the distribution of samples on the basis of Age in years. Maximum number of students both in study and control group belonged to the age group of 21 years.

a) **Introduction:** The topic was opened to the class using a relevant introduction: Out of 70 samples from the study group 68 said they agreed to this statement and from the control group out of 73 samples 72 agreed to the same.

b) Objectives: Cent percent samples from the study group agreed to the statement that the content taught in the session fulfilled the teaching learning objectives. In the control group only two samples gave an undecided response to this statement.

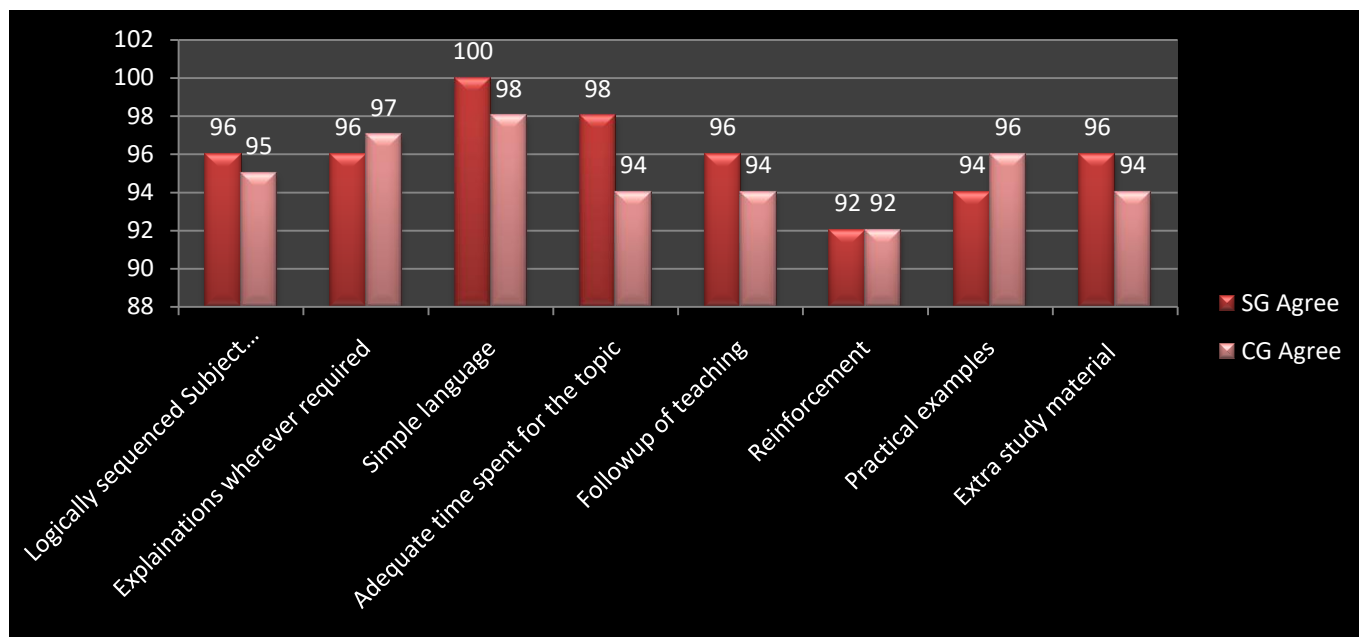**c) Content coverage and relevance:**

Figure 3: Distribution of sample on Agreement related to Content coverage and Relevance

Figure number three highlights the comparison between the agreement between the study and control group with regard to the content coverage and relevance of the topic taught.

From the figure it is clear that in both the groups study and the control group majority of students i.e. about 90 percent agreed to the statements related to the content coverage and relevance. The points which can be focused is the use of simple language, wherein interestingly cent percent students from the study group agreed to this statement. Other point which needs to be highlighted is that both the study and control group found that reinforcement was necessary. Due to the time constraint and the vastness of the portion, the reinforcement was not adequately implemented.

TABLE NO I: DISTRIBUTION OF SAMPLES WITH RESPECT TO THE METHODOLOGY USED.

(n = 70 + 73)

Sr. No.	Statement related to Methodology	Study Group Agree		Control Group Agree	
		f	%	f	%
1	Methodology was interesting with lot of interactive activities	67	96	23	31
2	The class was divided in small groups to accomplish learning activities.	69	99	16	22
3	Teaching Learning activities during the class encouraged self-learning	66	94	35	48
4	Class room activities did not distract me from my learning goal	69	99	73	100
5	Teaching Methodology helped me for brain storming activities	70	100	48	66
6	Learning from Peers during the class activity was encouraging	65	93	40	55
7	The classroom learning was useful for clinical application	68	97	65	89
8	Each activity in the class helped to take care of patients well	66	94	64	88
9	Methodology of teaching helped to improve team spirit	67	96	45	62

The most remarkable result related to the agreement among the samples with regard to methodology used is the Methodology used. The percentage of agreement between the study group and the control group differs remarkably. As the study group was taught using Brain Based learning methodology which included use of different activities in the teaching learning process, 96% of the samples agreed to the statement compared to that in the control group only

31 % of the sample marked for their agreement. This proves that the Brain Based Learning methodology used was interesting for the students.

Similarly, Brain Based learning involved many group activities therefore the students of the study group agreed that that class was divided into groups whereas the control group very few denoted their agreement.

Brain Based Learning clearly demonstrates the advantage of brain storming activities used during the teaching learning as compared to the Traditional method.

Brain Based Learning methodology which was used in the study group also shows a clear advantage over the traditional teaching in the point of learning from peers and also enhancing team spirit among the students.
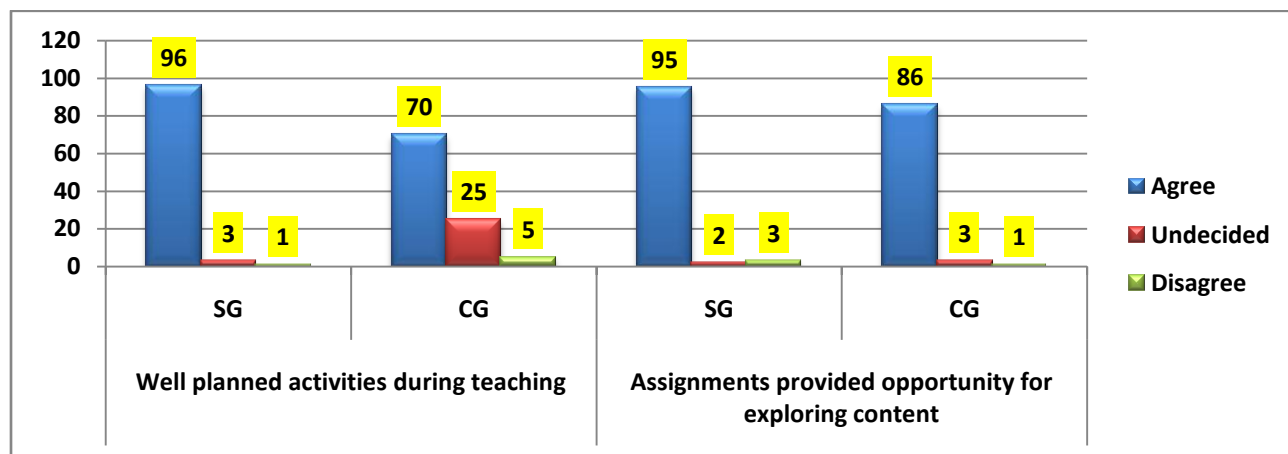
d) **Assessment:**

Fig 4: Distribution of samples on basis of Assessment technique used

Figure number three stresses on the comparison of the opinion of the students between the study and control group in relation to the Assessment techniques used during the teaching learning process. It is clear from the bar graph that, compared to control group which agreed to 70 % for use of well-planned activities during the teaching, study group for whom Brain Based learning was used in teaching learning process, 96% opined to the agreement for the same.

Ninety five percent of study group samples opined agreement for the statement that assignments provided opportunity for exploring further content compared to this only 86% from the study group agreed for the same.

e) **Teaching Aids**

TABLE II – DISTRIBUTION OF SAMPLE WITH AGREEMENT FOR THE USE OF TEACHING AIDS

(n = 70 + 73)

Sr. No.	Statement related to Use of teaching Aids	Study Group Agree		Control Group Agree	
		f	%	f	%
1	The AV aids used in teaching were self-explanatory	67	96	85	89
2	Used Case based examples to deal with clinical related topics	68	97	69	94
3	Demonstration was done for the relevant topics.	70	100	73	100
4	Return demonstration was taken of each student.	68	97	71	97
5	Articles were shown and its uses were explained	69	99	71	97

Table II, provides further evidence for the stating that the use of AV aids in the teaching learning process used during Brain Based Learning was much effective than the control group. As there were various activities used for the study group in delivering the content the use of AV Aids was also comparably more than that used in the control group.

Demonstration and Return demonstration and allowing the students to handle the articles was performed for both the groups which showed almost similar agreement in both the groups.

f) **Teacher Student Relationship**

TABLE III – DISTRIBUTION OF SAMPLE WITH TEACHER STUDENT RELATIONSHIP

(n = 70 + 73)

Sr.	Statement related to Teacher Student Relationship	Study Group	Control Group

No.		Agree		Agree	
		f	%	f	%
1	Friendly	70	100	69	95
2	Understanding	68	97	71	97
3	Attentive to all students	70	100	71	98
4	Encouraged student's participation during class hours	68	97	69	94
5	Student participation was encouraged during clinical posting.	69	99	69	94
6	Was always accessible to solve the doubts	67	96	67	92
7	Fair in doing assessment	68	97	70	96
8	Provided prompt feedback after every assessment	68	97	69	94
9	Controlled and maintained conducive environment	67	96	69	94

Table number III, depicts the Student teacher relationship in both study and control group. As same teacher was involved in teaching both the groups the results did not vary much significantly in this section of the study.

g) **Clinical Implications:**

TABLE IV – DISTRIBUTION OF SAMPLE WITH REGARD TO CLINICAL IMPLICATIONS

(n = 70 + 73)

Sr. No.	Statement related to Teacher Student Relationship	Study Group Agree		Control Group Agree	
		f	%	f	%

1	Helped in improving the communication skills	67	96	67	92
2	Helped in application of Infection Control protocols	68	97	69	94
3	Module helped to improve the skill of observation.	70	100	71	98
4	Module helped to develop the attitude of responsibility.	68	97	69	94
5	Developed confidence in taking care of patients with various gadgets and monitoring equipment's.	69	99	69	94
6	Improved the skill in taking care of ICU related gadgets and equipment.	69	99	69	95
7	Developed confidence to collect adequate history and patient related data at the bedside.	68	97	70	96
8	Able to perform detailed physical examination of the patients in the ICU.	68	97	69	94
9	Helped to improve the skill in recording and reporting	67	96	71	98
10	Helped in developing skills to perform the procedures.	70	100	69	95

Table IV, focuses on the comparison of opinion of the students related to use of teaching methodology during the clinical posting. There seems to be no significant difference in the opinion of the students in relation to this section. Both group students had received equal hours of attention and equal visits in the clinical area by the researcher, thereby there is no significant difference in the opinion of the students in relation to the clinical implications. There are few noticeable points like improving the skill of observation, helped in developing the skill to perform the procedures which were agreed by cent percent students as compared to the control group. Handling various gadgets and monitoring the patients on those also was opined as 99% by the study group students.

Thus, the above results strengthen the earlier findings of the study that Brain Based Learning has improved in improving the clinical skill of the students than the study group.

DISCUSSION

The study emphasizes that majority of the samples were female students in both the group. A study published in 2013, there are educational and societal barriers that are experienced by the men in choosing the career and role strain in nursing profession[2]. The age group of the students in both the group was 21 years for majority of the samples.

Content coverage and Relevance highlights reinforcement as a must in improving the teaching learning process for both the study and control group. The findings of this study are supported by the Skinner's Operant Conditioning. A study performed on Effect of Reinforcement on Teaching Learning Process also supports the findings[3]. The findings related to Methodology used, students from the study group enjoyed the teaching which was used using lot of interactive activities. Study was conducted to find out the impact of Social Interaction on Student learning proved that learning was enhanced using social interaction [4]. Students also opined that team work and peers contributed in enhancing their learning. The study conducted by Crystal Daugherty also recommends collaborative learning as the key of improving the teaching learning process and thus supports the findings of this study [5]. A Study conducted on Brain Based learning focused that Brain Based Learning activates Brain functioning and also motivates the learners to be more active [6.]

CONCLUSION

The paper investigated the opinion of the students from the study group and control group who were taught using two different methodologies, study group being taught using Brain Based Learning and Control group was taught using Traditional method. Taken together, these results suggest Brain Based Learning helped the students enjoy the teaching learning process and opined this method to be more helpful than the traditional teaching. Despite the fact that the researcher was same who taught both the groups but the methodology used was totally different which surely impacted the teaching learning process.

The present findings might have important implications for using Brain Based Learning in teaching learning process.

REFERENCES

1. Hattie J, Timperley H. The Power of Feedback. *Review of Educational Research.* 2007;77(1):81-112. doi:10.3102/003465430298487

2. Zamanzadeh, V., Valizadeh, L., Negarandeh, R., Monadi, M., & Azadi, A. (2013). Factors influencing men entering the nursing profession, and understanding the challenges faced by them: Iranian and developed countries' perspectives. *Nursing and midwifery studies*, *2*(4), 49–56. https://doi.org/10.5812/nms.12583

3. Sk. Rezaul Hoque, (Jan. - Feb. 2013) "Effect of Reinforcement on Teaching – Learning Process" IOSR Journal Of Humanities And Social Science, PP 13-16

4. Hurst, B., Wallace, R., & Nixon, S. B. (2013). The Impact of Social Interaction on Student Learning. Reading Horizons: A Journal of Literacy and Language Arts, 52 (4). Retrieved from https://scholarworks.wmich.edu/reading_horizons/vol52/iss4/5

5. Daugherty, Crystal. (2014). The Benefits of Collaborative Learning in the Elementary Classroom. Retrieved from Sophia, the St. Catherine University repository website: https://sophia.stkate.edu/maed/39

6. Oh, J., Kim, S.-K., Kang, K.-A., Kim, S.-H., Roh, H., & Gagne, J. C. D. (2014). Brain-based Teaching Strategies for Nurse Educators: An Integrative Review. The Journal of Korean Academic Society of Nursing Education, 20(4), 617–627. https://doi.org/10.5977/jkasne.2014.20.4.617