Traditional versus Brain Based Learning Approach: A comparison of Self Esteem of nursing students

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Abstract

Background: Education takes many forms across the whole of life. Education must be envisioned in a broader sense. Education wouldn't function as planned for success in the twenty-first century without all of its major components. Lifelong education is built on four key elements: learning 'to know,' 'to do,' 'to be,' and 'to live together.' It has highlighted the importance of gaining knowledge 'to understand.' Learning to understand exactly suggests that one should gain knowledge by enhancing one's critical thinking abilities. It is more about arousing inquisitiveness and allowing one to relish the joys of scientific research. Traditional teaching is a proven method for improvement in the students 'self- esteem. Positive self-esteem motivates the students' performance and vice versa. Objective: To compare the Self Esteem in Study group and Control group. Material and Methods: Two group pretest posttest design. 225 third year B.Sc. nursing students were enrolled. Non probability convenience sampling method was used. The data collection included use of Rosenberg Self Esteem Scale. Analysis: At the conclusion of posttest 3, the study group's self-esteem mean was 37.37, whereas the control group's mean was 35.69. This difference was significant at the 0.05 level of significance. The study findings are suggestive of using Brain Based Learning as a strategy to improve student participation in the teaching learning process. Conclusion: Self-esteem scores depicted marked improvement in the study group sample. Implications: Brain Based learning can be undertaken to check its effects on variables like intelligence, emotion, retention and memory. The study can be repeated using longer duration.

KeyWords: Traditional Teaching, Brain Based Learning, Self Esteem
DOI Number:10.14704/nq.2022.20.8.NQ44417 **NeuroQuantology 2022; 20(8): 3872-3877**

Introduction

Each student is in different age group and needs to be treated differently by controlling over their learning environment, such as the capacity to raise questions and clarify lingering issues, in order to be an active learner in higher education. The process of teaching and learning can be characterized as a transfer of wisdom from teachers to students1.

The use of tactics based on body-mind-brain research is known as brain-based learning. The fundamental question, Number of different approaches is based on the question, "What is good for the brain?" Brain-compatible learning is another name for it 2.

Self-esteem is self-confidence in one's values and abilities. Self-esteem includes not only beliefs about oneself ("I am not loved ", "I am worth", etc.), but also emotional states such as victory, despair, pride, and shame.

Academic achievement effect is a result of the brain-based learning strategy's engagement of the entire brain for efficient execution. Through the meaningful presentation of knowledge, the Brain-Based Learning Strategy creates a safe and threat-free environment where learners' brains are ready to comfortably store, process, and retrieve the information.

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Improving the children's morale is crucial for enhancing their performance and level of motivation. Give students the freedom to express themselves, make errors, and receive acknowledgement and appreciation. The students' self-will consequently be greatly increased by this. Instead of developing innovative thinkers and challenges, teachers must avoid producing rote learners, or robots 3.

Researchers have studied the effect of Brain Based Learning on the change in Self Esteem and various other variables. Brain Based Learning applies different brain principles which focus on the improvement in the Self Esteem. One such principle is "Emotions are key to memory, meaning, and attention" Emotions help the individual get engaged in improving the Self Esteem and feeling motivated in whatever activity they are involved in 4.

Research Question?

What is the impact of Traditional versus Brain Based Learning approach on Self Esteem?

Objectives

To compare the Self Esteem in Study group and Control group.

Null Hypothesis

There will be no significant difference in the Self Esteem of nursing students in the Study and Control group.

Materials and Methods

Rosenberg Self Esteem Scale was adopted to address the objectives of the study. Data collection was done for both the groups at the same time. Setting of the study were colleges of nursing under Maharashtra University of Health Science (MUHS).

Participants: Target population comprised of the third year B.Sc. Nursing students from the colleges of nursing from Mumbai and Navi Mumbai who follow MUHS syllabus. Students who were willing to participate, and available during the period of data collection were included. The exclusion included those students who were having ATKT. The study group students were taught the topic of Critical care Nursing using Brain Based Learning and Control group through Traditional teaching.

The researcher selected the colleges of nursing using random sampling to divide them into study and control group. Total sample size was 225 (115 in study group and 110 in control group). The researcher obtained necessary permission from concerned authorities and delivered the content for topic of Critical Care Nursing to the Study and the Control group as per the time slot allotted by the class teachers using BBL and Traditional approach respectively. The researcher administered Rosenberg Self Esteem Scale before and at 1month, 3 month and 6 month after the intervention to compare the change in Self Esteem. The Traditional teaching involved lecture cum discussion using power point presentation and the Brain Based Learning involved various activities such as group discussion, presentation, quiz, maze, puzzle, KWL chart, role play. The demonstrations and return demonstrations were also included and simulation based teaching was also the part of teaching. The clinical evaluation was conducted at the Bed side clinics.

The Rosenberg Self Esteem Scale is a Likert Scale with 10 items which are answered on a four point scale ranging from strongly agree to strongly disagree. The scale ranges from 0 – 30, with 30 indicating the highest point possible. 5 items on the scale are with positive valence and remaining 5 are reversed.

Ethical Considerations

The study was part of a larger research project approved by the Ethics Committee for Research on Human Subjects at MGMIHS, Kamothe, Navi Mumbai. Written permission was obtainedfrom the administrators of the respective colleges under study before the commencement of data collection. Participant's consent and information sheet was obtained prior by making them aware the steps of the data collection.

Quantitative Data Analysis

Data was analyzed using SPSS software. Demographic variable included the participant's age, favorite subject and the percentage of the previous qualifying examination.

Results

The data was analyzed under following sub headings:

Item wise analysis of RSES among Control group

Item wise analysis of RSES among study group

Comparison of Mean Self Esteem between Study and control group

Comparison of Level of self-esteem between the study and control group

Overall comparison of self-esteem mean between study and control group

The demographic variable age showed that maximum number 70% from the study group and 69 % from the control group belonged to the age group of 18 - 20 years. Both the groups, majority of the students in the study group (76%) and control group (62%) marked Medical Surgical Nursing as their favorite subject.

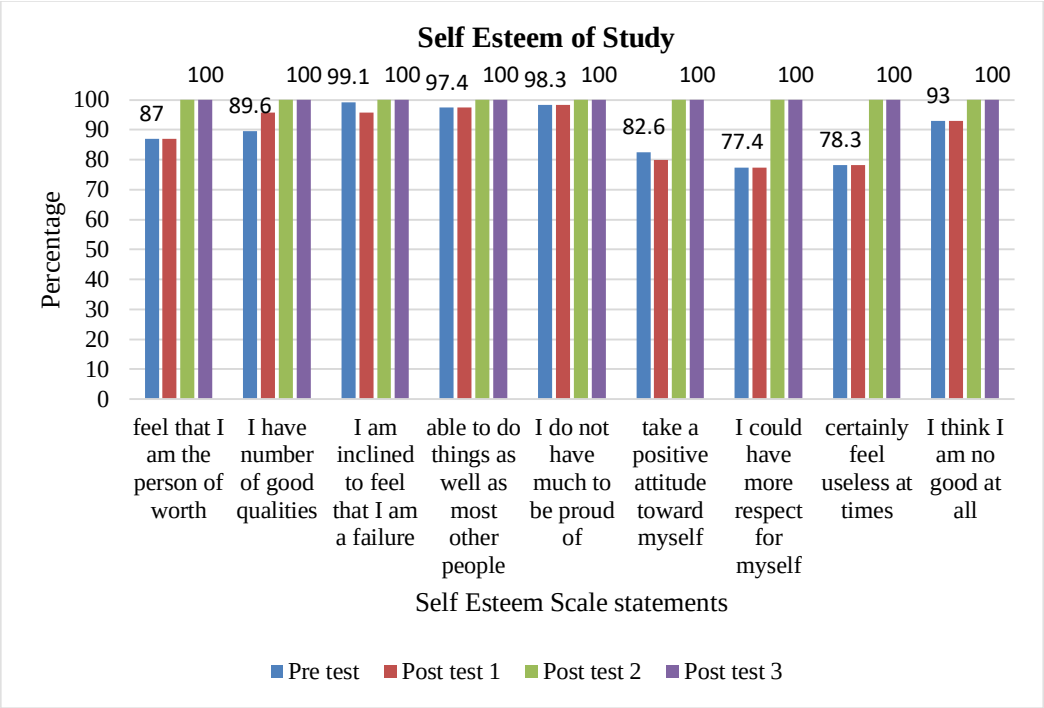

Figure 1: Item Wise Analysis of Rosenberg Self Esteem Scale among the Study Group

The figure above deals with an itemized analysis of the self-esteem score within the study group. It can be seen that the student's self-esteem rating improved from the pre-test to the post-test 3. At the end of the six months, there was effect of brain-based learning activities on improving student's self-esteem among the study group.

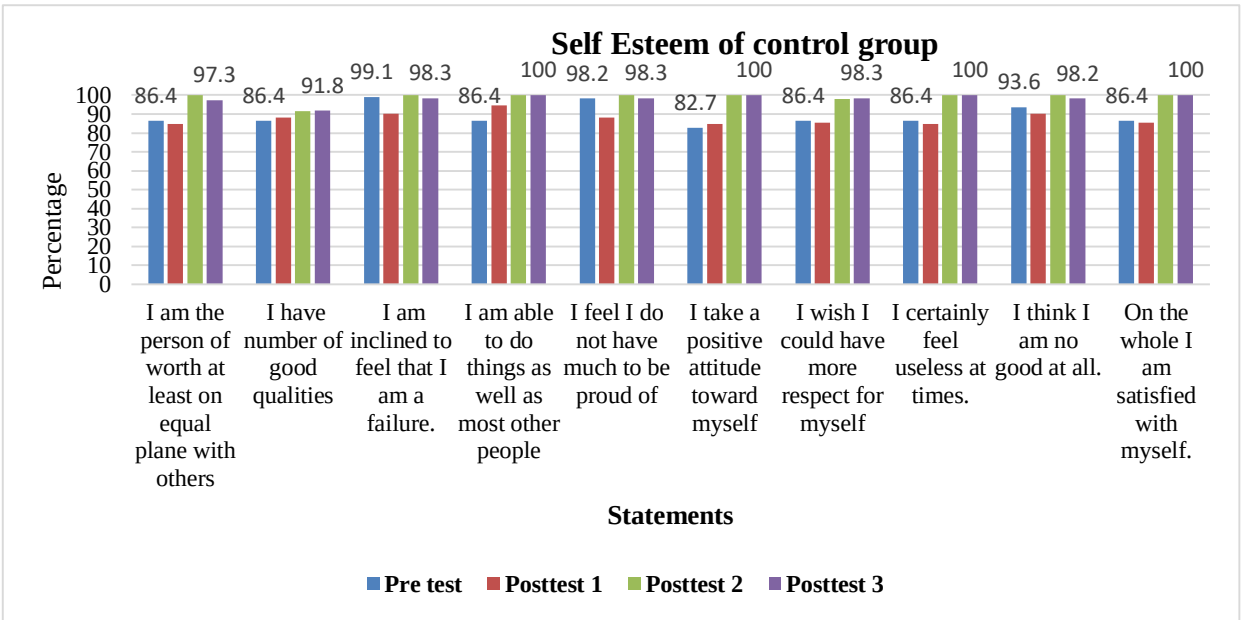

Figure 2: Item Wise Analysis of Rosenberg Self Esteem Scale among the Control Group

The figure above deals with an itemized analysis of the control group's self-esteem score. Student self-esteem scores before and after the test in the areas of having a positive attitude towards self, and being satisfied with self. There was marked improvement noted.

Table 1: Comparison of Mean Self Esteem between the Study and Control Group n=225

Group	Pre test		Posttest 1		Posttest 2		Posttest 3		Friedman Test	p Value	Sig. at 5% level
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Study	31.26	2.12	30.86	2.05	34.57	1.58	37.37	1.92	285.95	<0.001	S
Control	31.01	3.34	30.99	1.91	34.57	1.58	35.69	2.12	195.00	<0.001	S

The mean self-esteem between the study group and the control group is compared in the table above. The study's pretest mean scores, which were 31.26, increased to 37.37 in posttest 3, while the control group's pretest mean scores, which were 31.01, increased to 35.69 in posttest 3. At the 0.05 level of significance, this revealed a substantial increase in the self-esteem mean scores between the study and control groups.

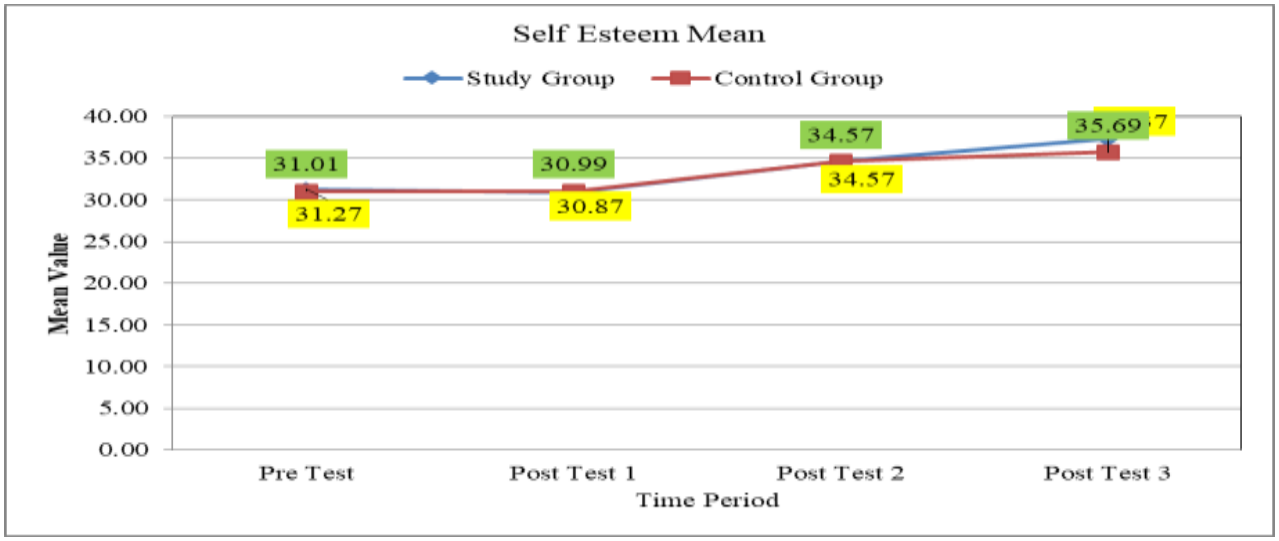

Figure 3: Comparison of Mean Self Esteem between the Study and Control Group

The above figure shows a comparison of mean self-esteem between the study group and the control group. The pre-test average of 31.26 in the study improved to 37.37 at 3rd post-test, and the pre-test average of 31.01 in the control group improved to 35.69 at 3rd post-test. This showed a significant improvement in the mean self-esteem score between the study and control groups at a significance level of 0.05.

Table 2: Comparison of Level of Self- Esteem between the Study and Control Group n=225

Group	Pre test		Posttest 1		Posttest 2		Posttest 3		Chi square Test	p Value	Sig. at 5% level
	Study	Control	Study	Control	Study	Control	Study	Control			
Normal (21 – 35)	115	100	115	110	68	65	9	48	297.43	<0.001	S
High (>35)	0	10	0	0	47	45	106	62	118.60	<0.001	S

The table above shows a comparison of self-esteem between the study group and the control group. It turns out that the maximum number of pretest level students had normal self-esteem, but both groups gradually improved to higher levels at the end of posttest 3. However, the maximum number of students in the study group (106) shifted from normal to high compared to the control group (62). This shows that there was a significant difference in the improvement of self-esteem among the students in the study group during the 6 months after the intervention.

Table 3: Overall Comparison of Self Esteem mean between Study Group & Control Group n = 225

Variables	Group	Mean	SD	Wilcoxon rank sum Test	p Value	Sig. at 5% level
Pre Test	Study	31.26	2.12	0.135	0.893	NS
	Control	31.00	3.34			
Post Test 1	Study	30.86	2.05	0.360	0.719	NS
	Control	30.99	1.91			
Post Test 2	Study	34.57	1.58	0.007	0.994	NS
	Control	34.32	1.53			
Post Test 3	Study	37.37	1.92	5.987	<0.001	S
	Control	35.69	2.12			

Testing of Null Hypothesis: The comparison of the total Self-Esteem mean between the Study and Control groups is shown in the above table. The mean self-esteem scores showed a significant difference at the conclusion of posttest3, demonstrating the impact of brain-based learning. In posttest 3, the Wilcoxon Rank test result was 5.987 at a significance level of 0.001, indicating that the null hypothesis is not accepted.

Discussion

In the present study, scores in the study group mean increased from 31.26 to 37.37 in relation to RSES at the end of six months. Similar research was conducted by Chavan R, who found that the study group's self-esteem was 13.2 compared to the control group's 8.91.2

According to Lisa A. et al., the kind of extracurricular activity portfolio had a substantial impact on both the initial level of self-esteem and the increase of self-esteem over time.3

According to a comparable study by Gausiya F. on 76 elementary school pupils in class VII, the experimental group's mean self-esteem was higher than the control group, and there was a 5.7 percent difference between the two.4

Another study that validates the findings was carried out by Afari E. et al. to examine the relationship between global self-esteem and self-efficacy among Emirati students. The findings show a favorable connection (r = 0.44) between high self-esteem and self-efficacy.5

According to Khalil A. et al., the experimental group did much better than the control group following the delivery of the EFL speaking test. The development of EFL speaking abilities in secondary school students was considerably aided and accelerated by brain-based learning.6

The group instructed utilizing a brain-based instructional technique saw a mean increase in self-esteem for science with accommodations for convergent and divergent learning styles.7

Conclusion

Interactive components and brain-based learning principles based on how the brain is naturally wired to learn make up brain-based learning. To enhance the learning opportunities for students, knowledge and comprehension of these are being implemented in the classrooms.

An environment that is both challenging and threat-free must be given for the students. Any type of threat that is prevalent reduces students' capacity for learning. Teachers should place more emphasis on democratic discipline with a zero-tolerance policy for bullying, humiliation, and putdowns rather than authoritarian discipline. Students that are given this kind of setting feel secure both physically and emotionally and form positive relationships with their teachers and classmates. Additionally, it gives students the courage to experiment with other hobbies without worrying about being ridiculed or criticized.

The study group sample's self-esteem scores showed a significant improvement. The current study showed improvement at the end of 6 months scores in the study group mean from 31.26 to 37.37 in relation to RSES.

Overall data from this study point to the potential use of brain-based learning as a way to improve

modifications in the teaching-learning process for students. The study's findings point to the use of brain-based learning as a tactic to enhance student involvement in the teaching and learning.

Teachers must be informed on the structure, function, and tactics of the brain through in-service training programmes, seminars, workshops, etc. if they are to integrate various brain-based learning methods in their classrooms. Government, school administrators, and curriculum developers must make an effort to include brain-based learning interventions and approaches in school curricula.

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