



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## Abstract

**Introduction:** Blended learning is simply the integration of technology into the curriculum. Whether students are utilizing digital media to gather information or computers to complete assignments, the actual combination of technology and the curriculum is the hallmark of blended learning. Blended learning is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods.

**Title:** Effect of Blended learning on knowledge regarding Seizure disorder among Undergraduate Nursing Students.

**Objectives:** To assess the knowledge regarding Seizure before and after Blended learning among Undergraduate Nursing Students.

**Methodology:** Quantitative Approach with Quasi experimental two group pre-test post-test design was used & samples were third year B.Sc nursing students selected through non-probability convenience sampling. Data was collected through structured questionnaire to assess knowledge, 5 scale Likert scale was used to assess feedback. Pilot study followed by actual data collection was done & analyzed using descriptive & inferential statistics.

**Result:** In this present study it was found that in experimental group 62.5% of the Undergraduate nursing students in pre test and 7.5% in post test had poor level of knowledge score, 37.5% of undergraduate nursing students in pre test and 12.5% in post test had average level of knowledge score and 80% of undergraduate nursing students in post test had good level of knowledge score.

In control group 47.5% of the undergraduate nursing students in pre test and 10% in post test had poor level of knowledge score and 52.5% of undergraduate nursing students in pre test and 85% in post test had average level of knowledge score, and 0% students had good level of knowledge .

Reliability analysis was done By using Parallel form method of reliability, it is found to be 0.9 and hence tool is reliable and valid.

**Discussion:** Findings revealed that blended learning is effective in improving knowledge regarding seizure disorder.

**Key words:** Blended learning, Knowledge, Undergraduate nursing students, Seizure Disorder

## Introduction:

The education system has been interrupted due to the COVID-19 pandemic. The educational institute has more challenges for smoothly functioning the teaching-learning process in this pandemic situation. A study revealed that web-based learning is more significantly used during the COVID-19 pandemic.

The past year, as well as the pandemic, have emphasised the idea that life is unpredictable, and we must brace ourselves and be prepared to weather the storm. Similarly, the educational system must implement approaches such as Blended learning to ensure that the learning process never stops.<sup>1</sup>

Blended learning is, first and foremost, the incorporation of technology into the educational process. The real mixing of technology and the curriculum is the characteristic of Blended learning, whether students use digital media to obtain information or computers to accomplish projects

Blended learning combines the advantages of in-person learning with online technology tools. Pre and during the COVID-19 pandemic, Steel case researchers used multiple methods to understand its value to educational outcomes and how space can play a role to ensure an enhanced experience. Since the onset of the pandemic, they've used a remote diary platform to assess how online learning is going for teachers and students.<sup>2</sup>

Blended learning consolidates the best of both traditional and digital methods of education. While classroom learning is important to incorporate overall discipline, online learning helps students to customize their education. Blending learning helps students to explore technology and use different tools or techniques for learning, for example, PowerPoint, Virtual classrooms, Video lectures, etc. Blended learning improves the quality of education and information assimilation while making teaching more efficient and productive<sup>3</sup>

As Covid-19 forced the requirement for social distancing, this outcome hit every sector significantly, which includes education. Students and teachers faced diverse challenges in these difficult times of Covid, giving rise to methods that can help avoid social interaction and at the same time, ensure the continuation of quality education. Students and educational institutes were forced to adopt distance learning methods like e-learning, virtual classrooms, online repositories, etc.<sup>4</sup>

Blended learning required immediate feedback to the students for their performance which can be achieved by combining assessment technique with the use of latest technological advancement. Blended learning techniques provide teachers to deliver the lecture as well as assess student learning using creative and innovative methods. Assessment is a very vital tool for determining the student's knowledge for the subject they enrolled at any levels of education. Assessment determines how the teacher teaches the course and how student understood the course. Assessment is no doubt one of the major tools in teaching and learning process.

A Study on the Students Experiences in Blended Learning Environments, In recent times, teaching and learning methods have a direct impact on students' learning experiences. Blended learning is a combination of face-to-face and online delivery methods which influences students' perceptions on the learning environments to a great extent. Learning analytics is a growing trend at all levels of education.<sup>5</sup>

**Objective:** To assess the knowledge regarding Seizure before and after Blended learning among Undergraduate Nursing Students.

- **Population and sample: Population:** Undergraduate Nursing students.
- **Sample:** 80 Undergraduate Nursing students who fulfill the inclusion criteria.

### **Data and Source of data:**

Primary data collection done, data collected in systematic manner using structured questionnaire from 3<sup>rd</sup> year B.Sc. Nursing students.

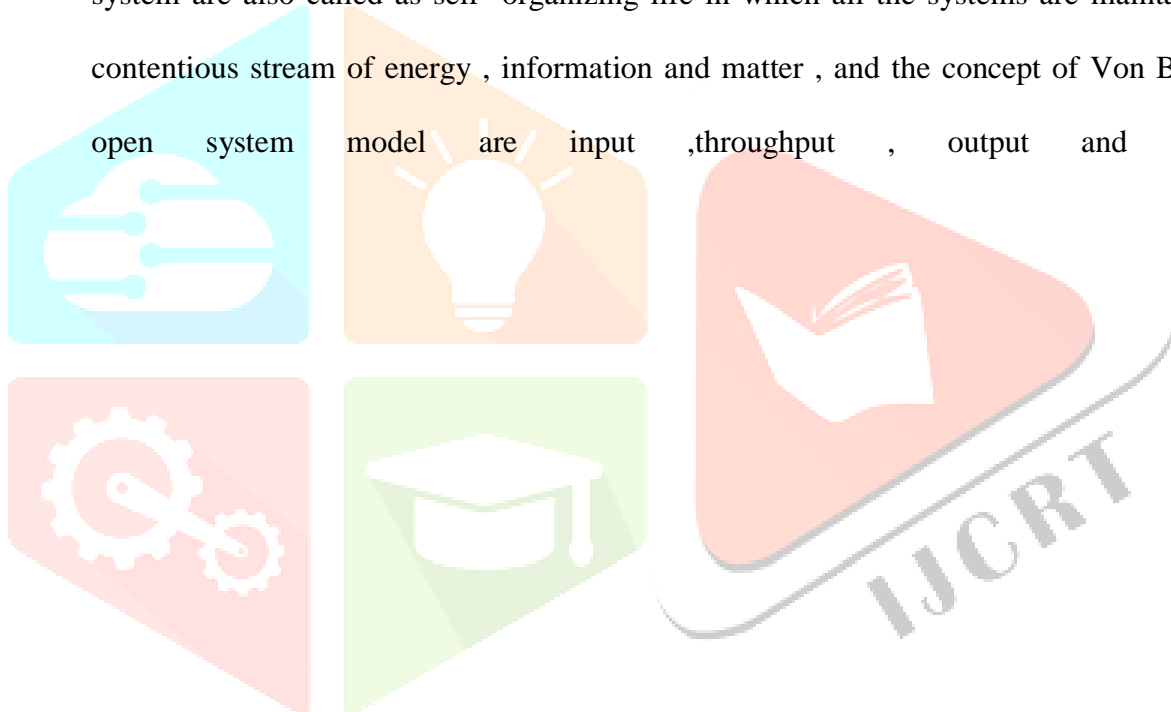
Data collection done from 16/02/2022 to 22/02/2022.

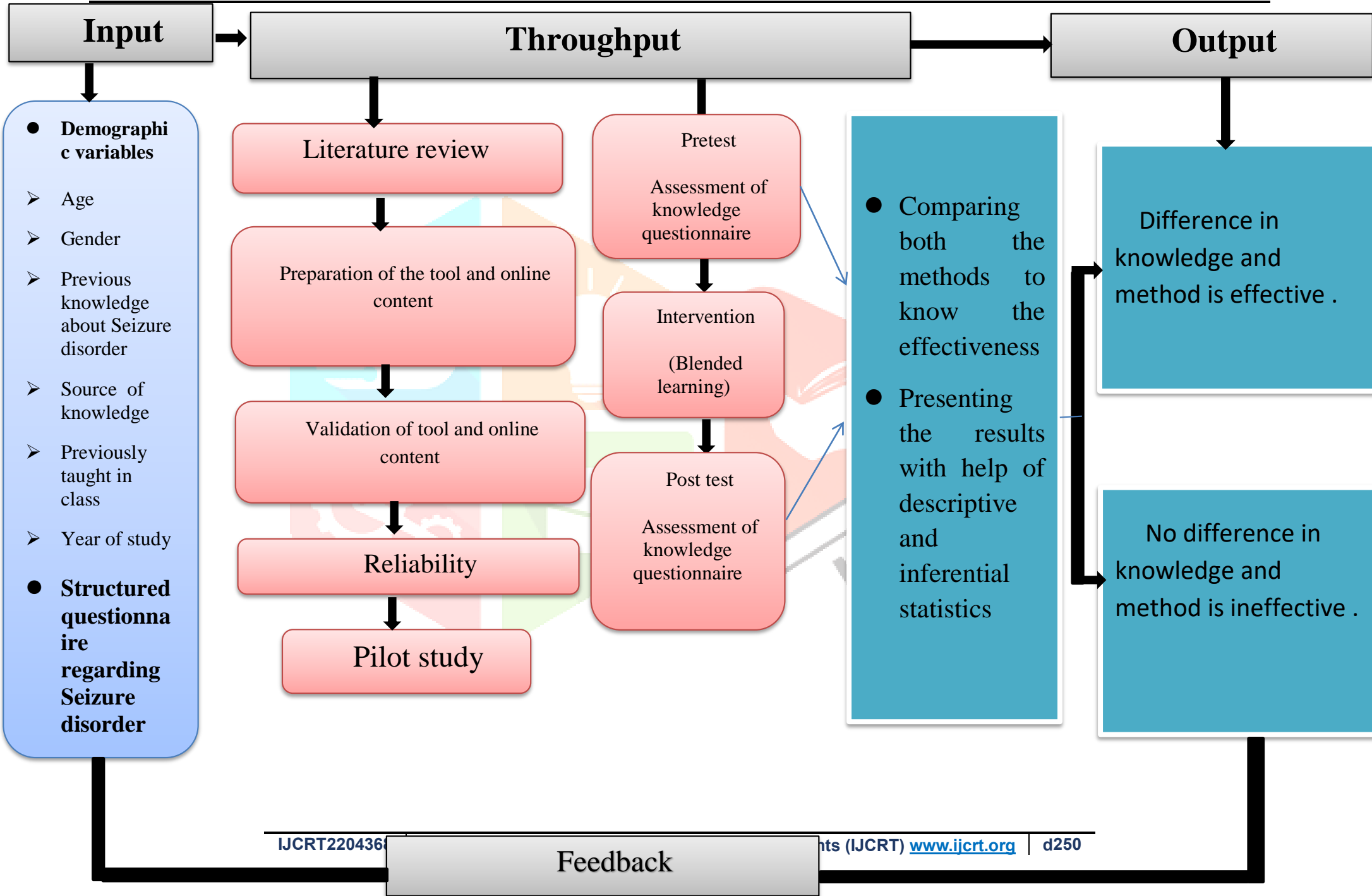
## I. Conceptual framework:

“Conceptualization model is needed in research because it represent a system which is developed with a mixture of concept and elements which will help the people to understand that what the model constitute.”<sup>26</sup>

Theoretical framework is overall conceptual understanding of the study ,every study has a framework .If a study is based on theory the framework is referred to as theoretical framework . (Beck , CT , 2003)

This study is based upon Von Bertalanffy open system model. The system theory makes wretched change due to interactivity between various factors in an event as well as all living system are also called as self -organizing life in which all the systems are maintained by a contentious stream of energy , information and matter , and the concept of Von Bertalanffy open system model are input ,throughput , output and feedback.





**Statistical tool:** Statistical analysis is a method for rendering quantitative information meaningful and intelligible. Without the aid of statistics, the quantitative data collected in the research project would be little more than a chaotic mass of numbers. Statistical procedures enables the researcher to reduce, summarize, organize, evaluate, interpret and communicate numeric information

## STATISTICAL FORMULAS

Statistical analysis of effect of blended learning on knowledge regarding seizure disorder among undergraduate nursing students from selected nursing institutions of the city was carried out to find the significant difference between those values. Analysis of the data was done by using descriptive and inferential statistics both.

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

Descriptive statistics are typically distinguished from inferential statistics. With descriptive statistics you are simply describing what is or what the data shows. With inferential statistics, you are trying to reach conclusions that extend beyond the immediate data alone. For instance, we use inferential statistics to try to infer from the sample data what the population might think. Or, we use inferential statistics to make judgments of the probability that an observed difference between groups is a dependable one or one that might have happened by chance in this study. Thus, we use inferential statistics to make inferences from our data to more general conditions; we use descriptive statistics simply to describe what's going on in our data.

The software used in the analysis were SPSS 24.0 and Graph Pad Prism 7.0 version and  $p < 0.05$  is considered as level of significance.

The statistical tests used for the analysis of the result were:

1. Students paired t test
2. Students unpaired t test
3. Pearson' Correlation Coefficient
4. Reliability Analysis

### Descriptive Statistics :

1. **Arithmetic Mean** :The arithmetic mean, or average, is the sum of the values divided by the number of values.

**Formula:**

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

Where:

$\bar{X}$  = Sample arithmetic mean

$n$  = Sample size

$X_i = i^{th}$  Observation of the random variable  $X$

$\sum_{i=1}^n X_i$  = Summation of all the  $X_i$  values in the sample

## 2. Standard Deviation (SD) =

$$\sqrt{\frac{\sum(X - \bar{X})^2}{(n - 1)}}$$

where:

$X$  = each score

$\bar{X}$  = the mean or average

$n$  = the number of values

$\Sigma$  means we sum across the values

3. Mean percentage = Total Score / no of questions

4. Max/Min = Maximum/Minimum value of knowledge score

### Inferential Statistics :

#### 1. Students unpaired t test

#### Assumption:

1. The samples ( $n_1$  and  $n_2$ ) from two normal populations are independent.
2. One or both sample sizes are less than 30
3. The appropriate sampling distribution of the test statistic is the t distribution
4. The unknown variances of the two populations are not equal

To compute the two-sample t-test two major computations are needed before computing the t-test. First, you need to estimate the pooled standard deviation of the two samples. The pooled standard deviation gives an weighted average of the standard deviations of the two samples. The *pooled standard deviation* is going to be between the two standard deviations, with greater weight given to the standard deviation from a larger sample. The equation for the pooled standard deviation is:

$$S_P = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$



In all work with two-sample t-test the degrees of freedom or df is:

$$df = n_1 + n_2 - 2$$

The formula for the two sample t-test is:

$$T = \frac{\bar{X} - \bar{Y}}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

## 2. Student's paired t test

Any statistical test that uses the t-distribution can be called a t-test. One of the most common is Student's t-test, named after "Student," the pseudonym that William Gosset used to hide his employment by the Guinness brewery in the early 1900s (they didn't want their competitors to know that they were making better beer with statistics). Student's t-test is used to compare the means of two samples. Other t-tests include tests to compare a single observation to a sample, or to compare a sample mean to a theoretical mean, and the paired t-test.

### When to use it

This *t*-test compares one set of measurements with a second set from the same sample. It is often used to compare "post" and "post" scores in experiments to determine whether significant change has occurred.

**Formula -  $t_{obs}$** 

$$t_{obs} = \frac{\bar{d}}{s_{\bar{d}}}, \quad \bar{d} = \frac{\sum_{j=1}^n d_j}{n} = \frac{\sum_{j=1}^n (X_{1j} - X_{2j})}{n}$$

$$s_{\bar{d}} = \frac{s_{\bar{d}}}{\sqrt{n}} = \sqrt{\frac{s_{\bar{d}}^2}{n}} = \sqrt{\frac{SS_{\bar{d}}}{n-1}} = \sqrt{\frac{\sum_{j=1}^n (d_j - \bar{d})^2}{n-1}}$$

$j = j$ th pair of values from samples 1 ( $X_1$ ), 2 ( $X_2$ )

$n =$  number of pairs of values

**4. Pearson's Correlation Coefficient**

In statistics, the **Pearson product-moment correlation coefficient** (sometimes referred to as the **PPMCC** or **PCC** or **Pearson's  $r$** ) is a measure of the linear correlation (dependence) between two variables  $X$  and  $Y$ , giving a value between +1 and -1 inclusive, where 1 is total positive correlation, 0 is no correlation, and -1 is total negative correlation. It is widely used in the sciences as a measure of the degree of linear dependence between two variables. It was developed by Karl Pearson from a related idea introduced by Francis Galton in the 1880s.

The formula for Pearson's correlation takes on many forms. A commonly used formula is shown below. The formula looks a bit complicated, but taken step by step as shown in the numerical example, it is really quite simple.

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

## Result and Discussion

### Assessment of level of knowledge regarding Seizure disorder among Undergraduate Nursing students before and after Blended Learning.

This section deals with the level of knowledge regarding Seizure disorder among Undergraduate Nursing students before and after Blended Learning.

The level of knowledge score is divided under following heading of poor, average and good.

**Table 1:** Assessment with level of knowledge score in interventional group

Category	Pretest		Post test	
	f	%	f	%
Good	0	0%	32	80%
Average	15	37.5%	5	12.5%
Poor	25	62.5%	3	7.5%

The above table shows that 62.5% of the Undergraduate Nursing students in pre test and 7.5% in post test had poor level of knowledge score, 37.5% of Undergraduate Nursing students in pre test and 12.5% in post test had average level of knowledge score and 80% of Undergraduate Nursing students in post test had good level of knowledge score.

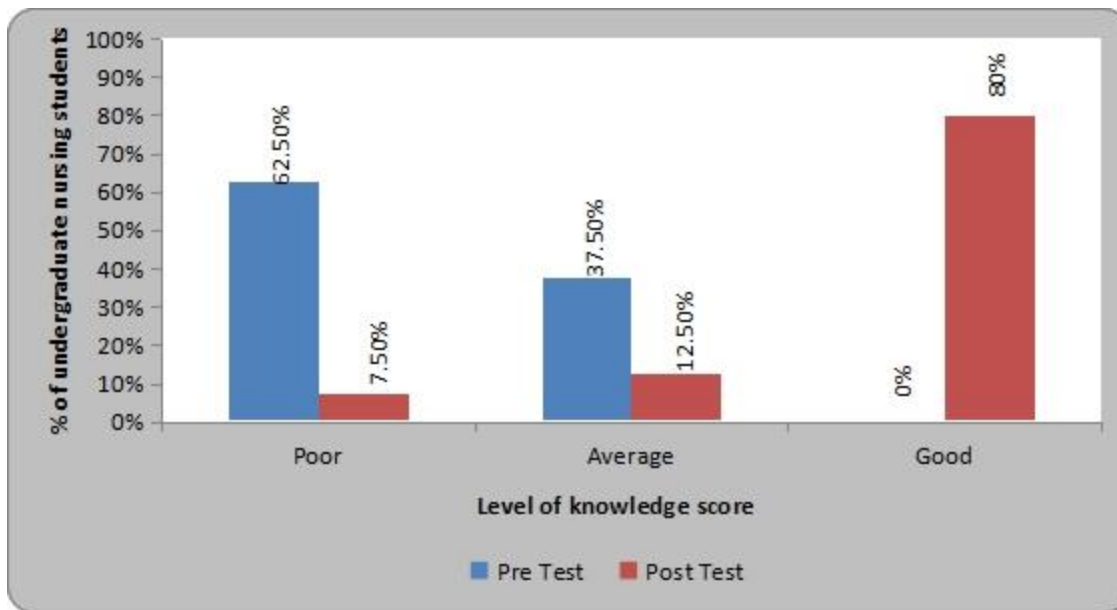
**Graph 1: Assessment with level of knowledge score in interventional group**

Figure 1: depicts the significant difference in knowledge score of pre-test and post test in interventional group

#### Acknowledgement:

Nothing would have been possible without that one power that exists in my life- God Almighty, my driving force & inspiration, hence would like to dedicate this entire work to him. The list of people I would like to thank is endless but here are some whom I would particularly like to thank.

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