"Comparative study of achievement level in science subjects among the students of Government Parishadiya Upper Primary Schools   and girls of Kasturba Gandhi Balika Vidyalaya of district Pilibhit"

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Abstract :

The Purpose of this study was to compare the achievement level in science subject among the students of Government Prishadiya Upper Primary Schools and girls of Kasturba Gandhi Balika Vidhyalaya . The sample size group is 300 students for Government Parishadiya Upper Primary Schools   and 300 girls of Kasturba Gandhi Balika Vidhyalya. A test of 20 marks is applied on each student . Stratified random sampling method was used for collection of data . Then after calculating the answer and analysing the result by statistical tools and t-test ,the result of the study shows that there is no significant difference in the achievement level in science subject among the students of Parishadiya Upper Primary Schools and girls of Kasturba Gandhi Balika Vidhalaya. It is Possible that the teachers of Government Parishadiya Upper Primary Schools and Kasturba Gandhi Balika vidhyalya have similar interest in teaching or the learning level of the students of Government Parishadiya Upper Primary Schools   and girls of Kasturba Gandhi Balika Vidhyalya is same.

Introduction:-

After my supportive supervision of Government Parishadiya Upper Primary Schools of Pilibhit district, it was found that there is a difference in the level of science subjects among the students of Government Parishadiya Upper Primary Schools and girls of Kasturba Gandhi Balika Vidyalaya . Science is changing human lives and the surrounding environment . Science is a key discipline in the school curriculum ,which provides the platform for a wide range of career opportunities in the global market. An achievement test is constructed to measure the learner's levels of achievement and skill areas in the domains of biology , chemistry and physics. When pedagogical content is delivered in the classroom teaching - learning process based on the aim of the science curriculum ,achievement test evaluates the students outcomes as well as provides feedback for the continuous educational development of student ,teacher and teaching environment .It can detect the domains of research for solving the problem of the educational system . Achievement tests are used to measure the degree to which examinees can demonstrate acquisition, and in many cases application, of knowledge and skill taught and deemed important for future learning or work.

Problem statement:-

Comparative study of achievement level in science subjects among the students of Government Parishadiya Upper Primary Schools and girls of Kasturba Gandhi Balika Vidyalaya of Pilibhit district.

Definitional reason for the terms used in the problem:-

1)Pilibhit District:-

Pilibhit is a district under Bareilly division of Uttar Pradesh state in India. It is located near the border of Uttrakhand state in the northern part of the Rohilkhand plateau near the lower Shivalik ranges of the Himalayas. The border of Nepal also touches Pilibhit district. Hindi is main language is mainly spoken in Pilibhit . Apart from Hindi,there are people who also use Bengali,English, Urdu and Punjabi languages. Literacy of Pilibhit is 61%.There are 5 tehsils in Pilibhit and total 7 blocks .

2) Kasturba Gandhi Balika Vidyalaya :-

There are 9 Kasturba Gandhi Balika Vidyalayas in Pilibhit district. These are residential schools. The main objective of   Kasturba Gandhi Balika

Vidhyalaya is to provide quality elementary education through residential girls school to the girls of deprived class who have left school. The scheme was started by the Government of India in 2003-2004.

3) Upper Primary Schools :-

There are 291 upper primary co-education schools in Pilibhit. They also get mid-day meal in the school under the Mid-Day Meal Scheme.

4) Achievement level:-

There is a difference in the achievement level between Kasturba Gandhi Balika Vidhyalaya and the students of Government Parishadiya Upper Primary Schools .

Objectives of the study :-

1:- To study the achievement level of science subjects among girls studying in Kasturba Gandhi Balika Vidhyalaya and students studying in Upper Primary Schools .

2:- To study the achievement level of science subject among girls of class 6 studying in Kasturba Gandhi Balika Vidhyalaya and students of class 6 studying in Government Parishadiya Upper Primary Schools .

3:- To study the achievement level of science subjects among girls of class 7 studying in Kasturba Gandhi Balika Vidyalaya and students of class 7 studying in Government Parishadiya Upper Primary Schools .

4 To study the achievement level of science subject among girls of class 8 studying in Kasturba Gandhi Balika Vidhyalaya and students of class 8 studying in Government Parishadiya Upper Primary Schools .

5:- To study the achievement level of science subjects among boys and girls studying in Government Parishadiya Upper Primary Schools .

Hypotheses of the study:-

1:- There is no significant difference in terms of achievement level in science subjects between the girls studying in Kasturba Gandhi Balika Vidyalaya and the students studying in Government Parishadiya Upper Primary Schools .

2:- There is no significant difference in the achievement level of science subjects between the girls of class 6 studying in Kasturba Gandhi Balika Vidyalaya and the students of class 6 studying in the Government Parishadiya Upper Primary Schools .

3:- There is no significant difference in terms of achievement level in science subjects between the girls of class 7 studying in Kasturba Gandhi Balika Vidyalaya and the students of class 7 studying in the Government Parishadiya Upper Primary Schools .

4 There is no significant difference in the achievement level of science subjects between the girls of class 8 studying in Kasturba Gandhi Balika Vidyalaya and the students of class 8 studying in the Government Parishadiya Upper Primary Schools .

5:- There is no significant difference in terms of achievement in science subjects between boys and girls studying in Government Parishadiya Upper Primary Schools .

Delimitation of the study: Before starting the study of any problem, determining the boundaries of the study can make the process of study accessible and easy. The researcher has delimited his problem in the following ways.

1:-The presented study has been done only on the girls of Kasturba Gandhi Balika Vidyalaya and students of Government Parishadiya Upper Primary Schools .

2:- The presented study has been done only on the girls of Kasturba Gandhi Balika Vidyalaya and students of Government Parishadiya Upper Primary Schools located in Pilibhit district.
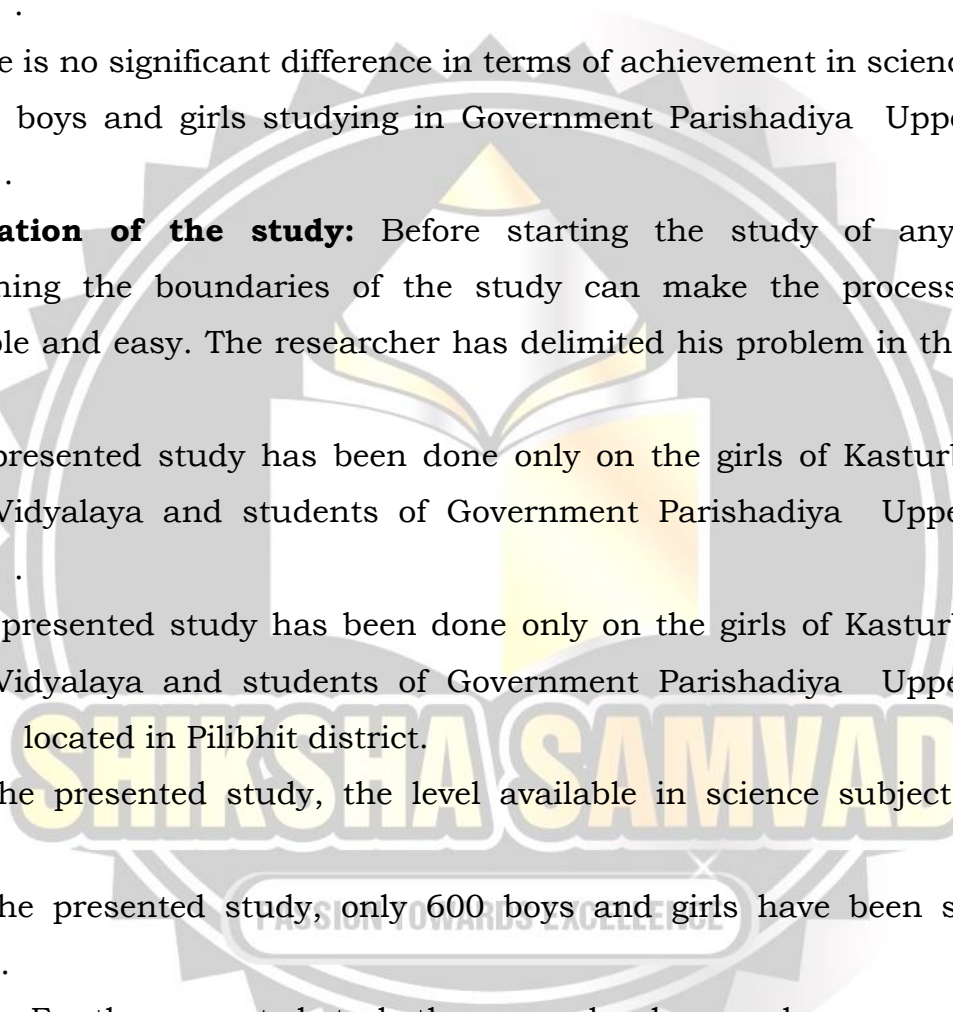
3:- In the presented study, the level available in science subject has been studied.

4:- In the presented study, only 600 boys and girls have been selected as samples.

Method:- For the presented study the researcher has used survey method.

Sampling (Sampling Method): - In the presented research, the researcher has used the stratified random sampling method keeping in mind the characteristics of the sample, which is a type of probability sampling.

Sample of the study:- In the presented research, the researcher has selected the girls studying in Kasturba Gandhi Balika Vidyalaya of Pilibhit district and the boys and girls studying in the Government Parishadiya Upper Primary Schools as the sample according to the following categories.

Number of students included in the research

Serial number	category	Number
1	Girls studying in Kasturwa Gandhi Balika vidhyalaya	300
2	Children studying in Upper Primary Schools	150
3	Girls studying in Upper Primary Schools	150
	Total	600

Variables used in the study and their control:-

A variable is that aspect of a phenomenon which, by its presence, affects another phenomenon or process that is being studied. Variables are given utmost importance in research work. The nature of variables is quantitative. The hypothesis determines the roles of the variables.

The roles of variables keep changing according to research. The variables used in the present study are as follows.

1:- Independent Variable:-

Independent variable is the variable which is active in an environment, it is the factor which is measured and its effect is studied through experiment.

In the presented research, the variables are Kasturba Gandhi Balika Vidhyalaya and Government Parishadiya Upper Primary Schools of Pilibhit district. Because the researcher has increased or decreased them to relate them to the problems.

2:- Dependent Variable:-

The dependent variable depends on the independent variable. The dependent variable is mostly obtained as a process variable. It is studied and measured for the effect of the independent variable on it. It is called a dependent variable because it depends on the independent variable. In the present research, the level available in science subjects among boys and girls is the dependent variable.

Instrument selection:-

To study the applied research problem, the researcher himself has constructed the test in which items have been used. And took the help of experts. The total number of questions in the Science Achievement Test is 20 and each question carries 1 mark. The time given is 40 minutes.

Statistical methods used:-

Often statistical methods are used to critically study the research work, due to which the results and conclusions are presented in a reliable and valid form. The following statistical methods have been used to analyze and discuss the data of the present study.

1-**Mean**:- Mean is also called average in mathematics and its other name is arithmetic mean.

Mean = $\frac{\Sigma x}{N}$

2:-**Standard Deviation = (S.D./ σ):-**

$\sigma = \sqrt{\frac{\Sigma x^2}{N} - \left(\frac{\Sigma x}{N}\right)^2}$

t-test

t- test is used to test the significance of two groups.

t= (M1 - M2)/SED

M1 = first group mean

M2 = second group mean

SED=Standard error of difference between the two groups.

The value of SED is determined from the following formula.

SED= $\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$

$\sigma 1$ =standard deviation of the first group

$\sigma 2$ = Standard deviation of the second group

N1= Number of units of the first group

N2= Number of units in second group

Analysis and interpretation of data:-

In the presented research, the data has been analyzed and interpreted with the help of students marks in the study of achievement level in science subjects among boys and girls of Kasturba Gandhi Balika Vidhyalaya and Government Parishadiya Upper Primary Schools of Pilibhit district in the following manner :-

Table 1.1

Mean, standard deviation and t-value of girls studying in Kasturba Gandhi Balika Vidhyalaya and students (boys and girls) studying in Government Parishadiya Upper Primary Schools –

Group	Number	Mean	Standard Deviation	T Value	Result

Kasturba Gandhi Balika Vidhyalaya girls	300	M1=11.11	14.29	0.14	Not significant
Government Parishadiya Upper Primary Schools Students (boys and girls)	300	M2=9.03			
			$t_{0.05}$=1.96,	$t_{0.01}$=2.33	

It is clear from the above table that the mean value of girls studying in Kasturba Gandhi Balika Vidyalaya and students studying in Government Parishadiya Upper Primary Schools is 11.11 and 9.03 respectively and their standard deviation is 14.29. Their t-value is 14 which is less than the table value 1.96 & 2.33 on degree of freedom 198. Hence we conclude that there is no significant difference in the achievement level of science subjects between the girls studying in Kasturba Gandhi Balika Vidhyalaya and the students studying in Government Parishadiya Upper Primary Schools . This may be because teacher of Kasturba Gandhi Balika Vidhyalaya and Teachers of Government Parishadiya Upper Primary Schools have equal interest in teaching or the learning level of the students should be the same.

Therefore, the above hypothesis is accepted that there is no significant difference in the achievement level of science subjects between the girls studying in Kasturba Gandhi Balika Vidhyalaya and the students studying in Government Parishadiya Upper Primary Schools .

Above finding are correlated with the finding of *Danjuma, Badatunde* (2019) that there is no significant difference between the academic performance of private and public schools students in basic science.

Table – 1.2

Mean, standard deviation and t-value of class 6 girls studying in Kasturba Gandhi Balika Vidyalaya and class 6 students (boys and girls) studying in Government Parishadiya Upper Primary Schools –

Group	Number	Mean	Standard Deviation	T Value	Result
Kasturba Gandhi Balika Vidhyalaya girls	100	M1=7.92	10.14	0.14	Not significant

Government Parishadiya Upper Primary Schools Students (boys and girls)	100	M2=6.43		
		t$_{0.05}$=1.97,		t$_{0.01}$=2.60

It is clear from the above table that the mean score of Class 6 girls studying in Kasturba Gandhi Balika Vidyalaya and Class 6 students (boys and girls) studying in Government Parishadiya Upper Primary Schools   is 7.92 and 6.42 respectively and their standard deviation is 10.4. Their t value is 0.14. Which is less than the table values 1.97 and 2.60 on degrees of freedom 198. Hence we conclude that the achievement level of science subject in class 6 girls studying in Kasturba Gandhi Balika Vidhyalaya and class 6 students (boys and girls) studying in Government Parishadiya Upper Primary Schools have no significant difference. It is possible that the teachers of Upper Primary Schools & Kasturba Gandhi Balika Vidyalaya have similar interest in teaching or the learning level of the students is same.

Therefore, the above hypothesis that there is no significant difference in the achievement level of science subject between the students of class 6 studying in Kasturba Gandhi Balika Vidhyalaya and the students of class 6 studying in Upper Primary Schools   is accepted.

Above finding are correlate with the finding of *Danjuma, Badatunde* (2019) that there is no significant difference between the academic performance of private and public schools students in basic science.

Table 1.3

Mean, standard deviation and t-value of class 7 girls studying in Kasturba Gandhi Balika Vidyalaya and class 7 students (boys and girls) studying in Government Parishadiya Upper Primary Schools   –

Group	Number	Mean	Standard Deviation	T Value	Result
Kasturba Gandhi Balika Vidhyalaya girls	100	M1=12.79	15.88	0.20	Not significant

Group	Number	Mean		
Government Parishadiya Upper Primary Schools Students (boys and girls)	100	M2=9.56		
		$t_{0.05}$=1.97,	$t_{0.01}$=2.60	

It is clear from the above table that the mean score of Class 7 girls studying in Kasturba Gandhi Balika Vidyalaya and Class 7 students (boys and girls) studying in Government Parishadiya Upper Primary Schools   is 12.79 and 9.56 respectively and their standard deviation is 15.88. Their t value is 0.20 . Which is less than the table values 1.97 and 2.60 on degrees of freedom 198. Hence we conclude that the achievement level of science subject in class 7 girls studying in Kasturba Gandhi Balika Vidhyalaya and class 7 students (boys and girls) studying in Government Parishadiya Upper Primary Schools have no significant difference. It is possible that the teachers of Upper Primary Schools of Kasturba Gandhi Balika Vidyalaya have similar interest in teaching or the learning level of the students is same.

Therefore, the above hypothesis that there is no difference in the achievement level of science subject between the students of class 7 studying in   Kasturba Gandhi Balika Vidhyalaya and the students of class 7 studying in Upper Primary Schools   is accepted.

Above finding are correlate with the finding of *Danjuma, Badatunde* (2019) that there is no significant difference between the academic performance of private and public schools students in basic science.

Table 1.4

Mean, standard deviation and t-value of class 8 girls studying in Kasturba Gandhi Balika Vidyalaya and class 8 students (boys and girls) studying in Government Parishadiya Upper Primary Schools –

Group	Number	Mean	Standard Deviation	T Value	Result
Kasturba Gandhi Balika Vidhyalaya girls	100	M1=12.63	16.72	0.09	Not significant
Government Parishadiya Upper	100	M2=11.10			

Primary Schools Students (boys and girls)			
			$t_{0.05}$=1.97, $t_{0.01}$=2.60

It is clear from the above table that the mean score of Class 8 girls studying in Kasturba Gandhi Balika Vidyalaya and Class 8 students (boys and girls) studying in Government Parishadiya Upper Primary Schools is 12.63 and 11.10 respectively and their standard deviation is 16.72. Their t value is 0.09 . Which is less than the table values 1.97 and 2.60 on degrees of freedom 198. Hence we conclude that the achievement level of science subject in class 8 girls studying in Kasturba Gandhi Balika Vidhyalaya and class 8 students (boys and girls) studying in Government Parishadiya Upper Primary Schools have no significant difference. It is possible that the teachers of Upper Primary Schools and Kasturba Gandhi Balika Vidyalaya have similar interest in teaching or the learning level of the students is same.

Therefore, the above hypothesis that there is no difference in the achievement level of science subject between the students of class 8 studying in Kasturba Gandhi Balika Vidhyalaya and the students of class 8 studying in Upper Primary Schools is accepted.

Above finding are correlate with the finding of *Danjuma, Badatunde* (2019) that there is no significant difference between the academic performance of private and public schools students in basic science.

Nwafar (2015) studies reveals that there is no significant difference between public and private secondary schools students achievement in science subjects like biology and chemistry.

Table- 1.5

Mean standard deviation t-value of boys and girls studying in Government Parishadiya Upper Primary Schools -

Group	Number	Mean	Standard Deviation	T Value	Result
Kasturba Gandhi Balika Vidhyalaya girls	150	M1=8.77	12.34	0.03	Not significant

Government Parishadiya Upper Primary Schools Students (boys and girls)	150	M2=9.16			
			$t_{0.05}$=1.97,		$t_{0.01}$=2.59

It is clear from the above table that the mean score of the students till the time they studied in the Government Parishadiya Upper Primary Schools is 8.77 & 9.16 respectively and their standard deviation is 12.34. Their t-value is 0.03 which is less than the table values of 1.97 and 2.59 on degrees of freedom 198. We conclude that there is no significant difference in the achievement level of science subjects of girls and boys studying in Government Parishadiya Upper Primary Schools . This may be because the learning level of boys and girls studying in Upper Primary Schools is the same.

Above finding are correlate with the finding of Danjuma, Badatunde (2019) that there is no significant difference between the academic performance of private and public schools students in basic science.

Nwafar (2015) studies reveals that there is no significant difference between public and private secondary schools students achievement in science subjects like biology and chemistry.

Conclusions of the study:-

1-There is no significant difference in the achievement level of science subjects between girls studying in Kasturba Gandhi Balika Vidhyalaya and boys and girls studying in Government Parishadiya Upper Primary Schools .

2- There is no significant difference in the achievement level of science subjects between the girls of class 6 studying in Kasturba Gandhi Balika Vidhyalaya and the boys and girls of class 6 studying in the Government Parishadiya Upper Primary Schools .

3- There is no significant difference in the achievement level of science subjects between the girls of class 7 studying in Kasturba Gandhi Balika Vidhyalaya and the boys and girls of class 7 studying in the Government Parishadiya Upper Primary Schools .

4- There is no significant difference in the achievement level of science subjects between the girls of class 8 studying in   Kasturba Gandhi Balika Vidhyalaya and the boys and girls of class 8 studying in the Government Parishadiya Upper Primary Schools .

5- There is no significant difference in the achievement level of science subjects between boys and girls studying in Government Parishadiya Upper Primary Schools .
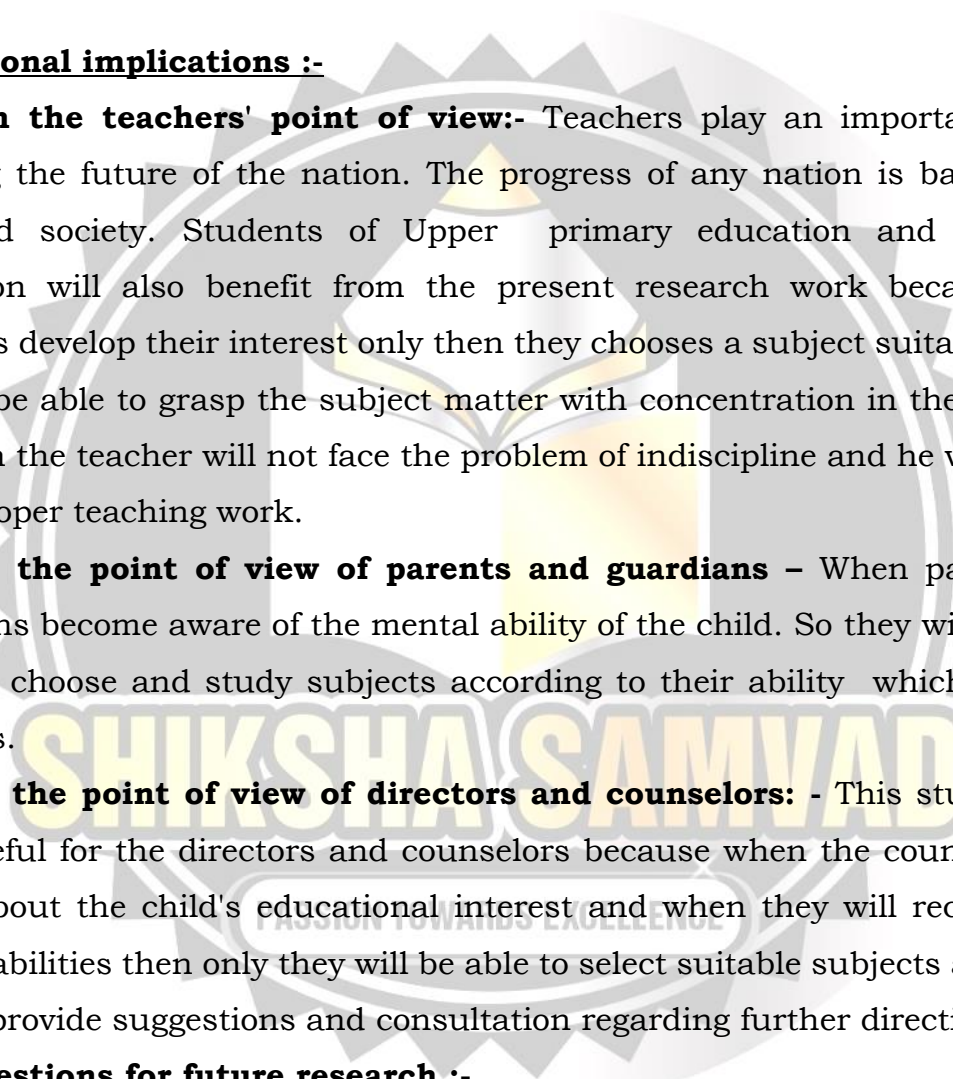
Educational implications :-

1:- **From the teachers' point of view:-** Teachers play an important role in building the future of the nation. The progress of any nation is based on an educated society. Students of Upper primary education and secondary education will also benefit from the present research work because when students develop their interest only then they chooses a subject suitable to him. He will be able to grasp the subject matter with concentration in the class due to which the teacher will not face the problem of indiscipline and he will be able to do proper teaching work.

2) **From the point of view of parents and guardians –** When parents and guardians become aware of the mental ability of the child. So they will motivate them to choose and study subjects according to their ability which the child deserves.

3) **From the point of view of directors and counselors: -** This study is also very useful for the directors and counselors because when the counselors will know about the child's educational interest and when they will recognize his mental abilities then only they will be able to select suitable subjects and will be able to provide suggestions and consultation regarding further direction.

 4) **Suggestions for future research :-**

Although the researcher has completed his research scientifically and objectively but he cannot be proud that this is an ideal research. There were many limitations in the present research and there is enough area for its support. Hence the following suggestions are presented for future research. So that the authenticity of the results of the presented research can be proved.
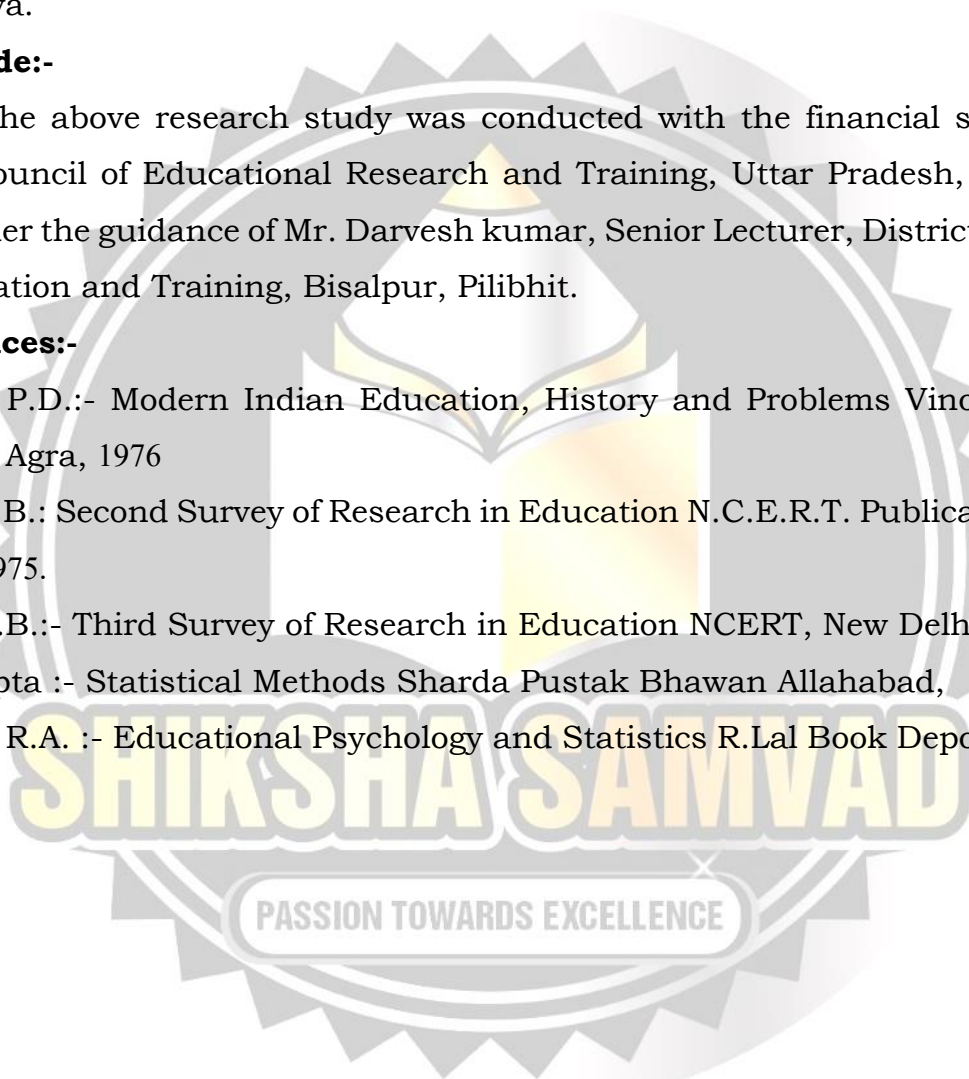
1- Survey method has been used in the presented functional research. In this study, conclusions can be obtained by studying the knowledge of experimental method.

2- The present research can also be done on students studying in secondary schools.

3- The present study can also be done with D.El.Ed students.

4- The present study can also be done on the students studying in Kendriya Vidyalaya.

Gratitude:-

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