A STUDY ON TEACHING APTITUDE AND ACADEMIC ACHIEVEMENT OF TTIs UNDER SAMBALPUR UNIVERSITY

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 Abstract

Training is a boon for humanity's blessing. The contribution of education is every creation and growth of human society and civilization. In the world's eyes, Indian education took its place. India was renowned for both its education and Indian philosophy. Education was according to different strata of the society but now with the modernization and westernization the entire concept of education has changed. Today's society is living developing, thriving, competing and improving on the pivot of knowledge. To satisfy the needs of students of 21st century new experimentations, creative innovations and appropriate strategies are being developed and tried out to improve education at all levels. The researchers also attempted to analyse the impact of academic achievement on the pupil teaching skills in this study. The study was conducted in four TTIs which come under Sambalpur University. Sample of the present study constitute of 200 student teachers from four Teacher Training Institute (TTIs) under Sambalpur University. However, the sample is chosen on the basis of two grounds i.e. Sex and Stream. Thus, out of total 200 student teachers 100 are male and 100 are female when divided on the basis of sex and when chosen on the basis of stream we can find 100 from arts stream and 100 from science stream. Teaching Aptitude Test Battery which is a readymade tool prepared by RIE, Bhubaneswar and achievement score obtained by B.Ed students in their graduation exam are used as tools of data collection in the present study. The Teaching Aptitude Test Battery Scale of RIE, Bhubaneswar contained 60 statements or items. The scoring was done by using Five point rating scale (1,2,3,4 and 5).For analysis and interpretation of data the researcher has used descriptive statistics like Mean and Standard Deviation and inferential statistics like t-test and Karl Pearson's Product moment co-relation.

 Introduction

The key pillar of the education process is the teacher. We can be confident that the nation will be the future if he is successful, honest, hard-working and confident. A teacher is honoured and respected in our country and in our community. In the whole matter of temporal and trascendental, society looks at him with confidence and hope and seeks him. A instructor should have a positive mindset and right aptitude for directing and inspiring students to hit the heights of human development and be responsible citizens of the country and decent people who genuinely serve society. The teacher's success is largely based on his abilities and beliefs. Teacher's ability affects the student's success and behaviour. Therefore, a teacher should have a positive attitude towards his teaching career in order to achieve the goal of developing children. It is the task of the teacher to find out if they really feel genuine about their duties.

NEED OF THE STUDY

A pre-condition for national, regional and global growth is quality education. We need high-quality teachers who are dedicated to education and who are equipped with the expertise, qualifications and competencies needed to teach effectively. Only the powerful agents of social reengineering and restoration can be qualitative teachers and teachers. Whatever their educational philosophies and beliefs, educators recognise that the supreme measure of national grandeur is the quality of their people, which is dependent on their instructor. Teacher preparation must be embedded in the heart of our institutions' academic life at all levels to make teachers more successful and quality practitioners. Planning and introducing future-oriented, systematic and forward-looking changes and guidelines will bring about a real success and vitalize the education of teachers. While an

educational system has exceptional abilities or if the instructors are unable to teach and are inexperienced or unaffected, it is possible that the programme is inefficient and largely wasteful. Several research presented valuable evidence for the standard of education that supported teacher skills. Complexity and multidimensionality of teacher skills guarantee a thorough analysis of the factors involved. The ability to teach is influenced by a variety of variables like socioeconomic status, sex, personality, acceptability in society, academic accomplishment, etc.. However, academic achievement is one of the most important factors in affecting teaching capacity. The researchers also attempted to analyse the impact of academic achievement on the pupil teaching skills in this study.

PROBLEM STATEMENT

The research study is particularly designed to identify pupil teachers' teaching ability to meet their academic achievement. Therefore, the statement of the study can be titled as **"A Study On Teaching Aptitude And Academic Achievement Of Ttis Under Sambalpur University"**.
OPERATIONAL DEFINITIONS:
• **Teaching** In this study the term teaching refers to a sequence of activities through which a teacher efforts to bring desired behavioral changes in students.
• **Teaching Aptitude:** Teaching aptitude refers to the aptitude for instruction. It refers to an distinct in born capacities or potentials which are indicative of some special abilities that are required for teaching job.
• **Aptitude:** In this study, aptitude is used to refer to a ailment or set of features regarded As symptomatic of an individual's ability to acquire with drill some knowledge, or skills or set of reply such as the aptitude to teach.
• **Pupil Teacher:** Those who are taking training under the teacher training institutions (DIET, B.Ed) to become teachers. Here B.Ed students have been taken as pupil teacher's .either private and Govt. under the Department od SME Govt. of Odisha.
• **Academic Achievement:** Academic achievement refers to sum total of marks or score obtained in one or more than one subject by a pupil teachers.

OBJECTIVES OF THE STUDY

• Studying the stage of teaching aptitude of pupil teachers of various TTIs of under Sambalpur University.
• Studying the stage of academic achievement of the pupil teachers of various TTIs under Sambalpur University.
• To find out the significant difference in the teaching aptitude of male and female pupil teachers.
• To find out the significant difference in the academic achievement of male and female pupil teachers.
• To find out the significant correlation between teaching aptitude and academic achievement of pupil teachers of Sambalpur university.

HYPOTHESES

1) There is no significant difference in the teacher capacity of the male and female pupils.
2) The academic performance of a male and female teacher is not significantly different.
3) The teaching ability and academic performance of pupils in various TTI teachers at Sambalpur University is not significantly correlated to it.
4) There is no significant difference between high-school and low-school pupil teachers.

DELIMITATION OF THE STUDY

The present study will be delimited to pupil teachers of B.Ed students of various TTIs under Sambalpur University.

METHOD AND DESIGN OF THE STUDY

Method and design of the study reflects the quality of any study. This chapter explains the method and design of study in details. It includes, methods of study, population selection of

samples, selection and description of tools, collection of data and data analysis procedures employed for analysis and interpretation of data etc.

METHOD OF STUDY

Survey method is widely used in social sciences. So taking the advantages of survey type of research, the method employed by the investigator for the present study is descriptive survey method, which throws light on the present status of a particular phenomenon in a large cross-section. In the study the investigator followed descriptive survey method.

POPULATION

Population may be described as a specific set of persons or non-humanities such as artefacts, educational establishments, units for time, geographical areas, wheat prices or salaries etc. It is the entire group from which the sample is taken. Due to paucity of time and resources,It is not at all possible to collect data from the whole of the population for the very purpose of the study. for such a practical reason the researcher restricted the population to a representatives sample ,for the present study the population constitutes all the pupil teachers (B.Ed students of academic session - 2015-17) of different teacher training institutions under Sambalpur university

SAMPLE

For the present study, the investigator followed prospective random stratified sampling procedure to select 200 students from four college of teacher education under Sambalpur University. Sample distribution of the study is presented below.

Table 1 Sample Distribution

Sl.	TTIs	Male		Female		Total
		Science	Arts	Science	Arts	
1	BHAWANIPATNA	12	13	13	12	50
2	BOLANGIR	13	12	12	13	50
3	SAMBALPUR	12	13	13	12	50
4	ROURKELA	13	12	12	13	50
Grand Total= 200						

DATA COLLECTION

To collect data the researcher herself personally met all the B.Ed students (trainees) taking prior permission from the principal. After deciding the proper tools the researcher met all the trainees separately. She expressed her propose of the study and told to fillup or of responding various items of the tools. They were assured that their responses would be kept confidential. As and when necessary some clarifications as sought by the respondent were given in time.

TOOLS USED

Different tools and techniques are employed for the collection of data , for the study of a problem and on the basis of which generalizations are made and conclusion are drown , in the present study ,the objectives are designed to collect the data regarding the aptitude of the pupil teachers . Aptitude tests are designed to provide future performance in some activity in the words of Linn and Gonlund (2000) .How ever so far as testing the aptitude of teachers are concerned no such standardized test was available to the researcher under the circumstances the researcher found the teaching aptitude test developed by RIE (regional institute of education) Bhubaneswar.

STATISTICAL PROCEDURE

After collecting all the data the researcher arranges them in a table or from separately for each factor. the aggregate score of individual students decides his teaching aptitude , the midpoint was

calculated by dividing the sum of highest and lowest score of the test by 2 .the student teachers lied above and below the scores are said to have high and low teaching aptitude respectively .then each individual score have been added to get a composite score which is divided by the total number of respondents ,represents the mean score .in this manner mean teaching aptitude score was calculated for male and female , academic achievement of male and female ,in specific. These figures were used for computing and calculating significance between male and female with the help of t-test, and correlation also used for the study.

ANALYSIS AND INTERPRETATION OF DATA

In order to determine underlying facts or significances, data analysis requires the analysis of the tabulated content. The dynamic variables are broken down into basic parts and new arrangements for analysis are combined. Teaching skills and their relation to academic achievement are assessed by secondary school pupil teachers. The 200 pupil teachers' samples were taught in teaching Aptitude Test Battery (TATB) to evaluate the doctrinal skills of pupil teachers in various TTIs under Sambalpur University. The data obtained are then translated to raw results for statistical analysis. The aims of the analysis were investigated using co-relationships between mean, standard deviation and tests and product times. Following are the statistical treatment and analyses of the sequenced data and the interpretation.

Table 2 -Descriptive Statistics of Teaching Aptitude

Gender	N	Min	Max	Mean	SD	% of the Score	% Below Mean	% Above Mean
Female	100	107	239	184.51	37.188	61.50	51	49
Male	100	112	231	182.56	32.396	60.85	56	44
Total	200	107	239	183.535	34.800	61.18	54	46

Figure Mean Score of Teaching Aptitude

It is evident from the table that Mean and Standard Deviation of Female pupil teachers in teaching aptitude are 184.51 and 37.188 respectively. Similarly the same for Male teachers are 182.56 and 32.396 respectively. Overall mean irrespective of gender is 183.535. The mean aptitude score of the male and female to total maximum aptitude score are 61.50% and 60.85%. About 49% of female pupil teachers fall below the mean score recoded for female where as 44% of the male pupil teacher exceed the mean score for its own category.The study found 46% of the of sample fall above the mean score. In nutshell, showed female pupil teachers have relatively a healthier teaching aptitude compared to its male counterpart.

Table 3 Descriptive Statistics of Academic Achievement

Gender	N	Min	Max	Mean	SD	% of the Score	% Below Mean	% Above Mean
Female*	100	32	75	49.07	11.10	61.50	42	58
Female**	98	32	59	48.46	8.62	61.48	42	58
Male	100	31	57	47.45	8.53	60.85	57	53
Total	200	31	75.00	48.26	9.8321	61.18	54	46

*Covering 100 sample, ** Coving 98 sample as two were outliers were dropped*

**Figure 1 Mean Score of Academic Achievement**

The mean values of academic achievement are 49.07 and 47.45 for female and male pupil teachers respectively. In this case male teachers have the higher mean value thanthat of female teachers but range of female pupil teachers is quite high as a result of which the SD of showing much higher. This might be due to higher extreme value few sample belongs to female pupil teachers. The table also reveals that the mean value of academic achievement represent 61.50%, 60.85% and 61.18% of maximum academic score for female, male and total sample respectively.Percentage of pupil teacher's fall below the mean value is quite high among the male

(57%) than female (42%) as against the 54% of total sample.

Further the study examined the outlier of female pupil teachers in academic achievement by using Box Plot analysis. Box plot is the graphical depicting groups of numerical data thought their quartiles. It shows the different parts of the box indicating the degree of spread and skewness in the data and show outliers.

Findings Box Plot of Academic Achievement

Figure 2 Box Plot on Academic Achievement
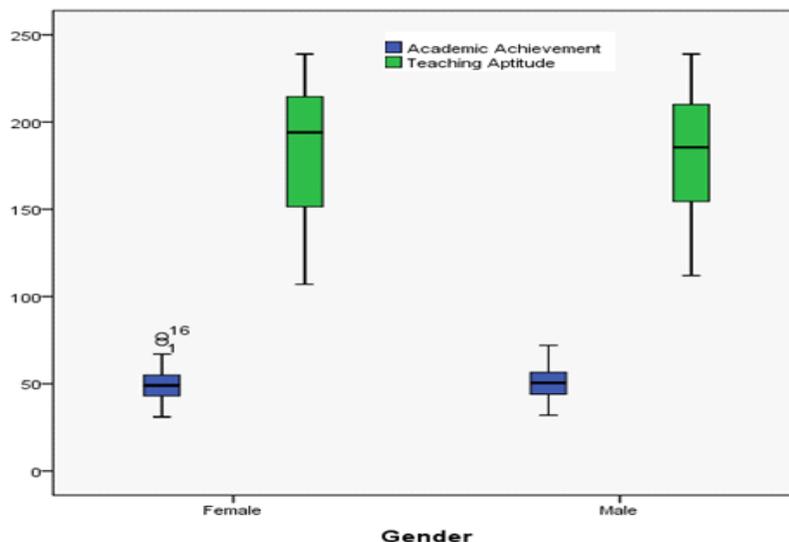
Though, the Mean score in comparative equal but SD is much higher in case of female which is confirmed from the Max score of the female pupil teachers. This is further confirmed by the box plot analysis as shown in the above figure. The above figure showed Sl No. 1 and 16 from female sample are much above the average academic score of the female. Any external factor such as academic background or socio-economic background of female pupil teacher might be influencing the academic achievement of the girls apart from the Teaching Aptitude.To control those factors two sample (Respondent 1 and 16) were drop from the further analysis.

HYPOTHESES TESTING
HO$_1$: There is no significant difference in the teaching aptitude of male and female pupil teachers. (Accepted)

Table 4 Difference between the male and female on Teaching Aptitude

Gender	Mean	SED	t	df	*Significant/Not Significant*
Female	184.51	1.017	1.917	198	Not Significant @ 0.05 level
Male	182.56				

On 198 degree of freedom, the Critical t value (table) to be significant at .05 level is 1.98. The obtained t value (1.917) is not significant at 0.05 levels as the calculated value is below the critical value (*1.917<1.98*). So it can be inferred that Female and Male pupil's teacher teachers do not differ in teaching aptitude. So gender no important role in teaching aptitude. Hence, the null hypothesis framed in this accordance is accepted.

HO2: There is no significant difference between the academic achievement of male and female pupils teacher (*Accepted*)

Table 5 Difference between the male and female on Academic Achievement

Gender	Mean	SED	t	df	Significant/Not Significant
Female	49.07	1.22	1.327	198	Not Significant @ 0.05 level
Male	47.45				

On 198 degree of freedom, the Critical t value (table) to be significant at .05 level is 1.98. The obtained t value (1.327) is not significant at 0.05 levels as the calculated value is below the critical value (*1.327<1.98*). So it can be inferred that Female and Male pupil's teacher tteachers do not differ in academic achievement. So gender has no important role in academic achievement. Hence, the null hypothesis framed in this accord is accepted.
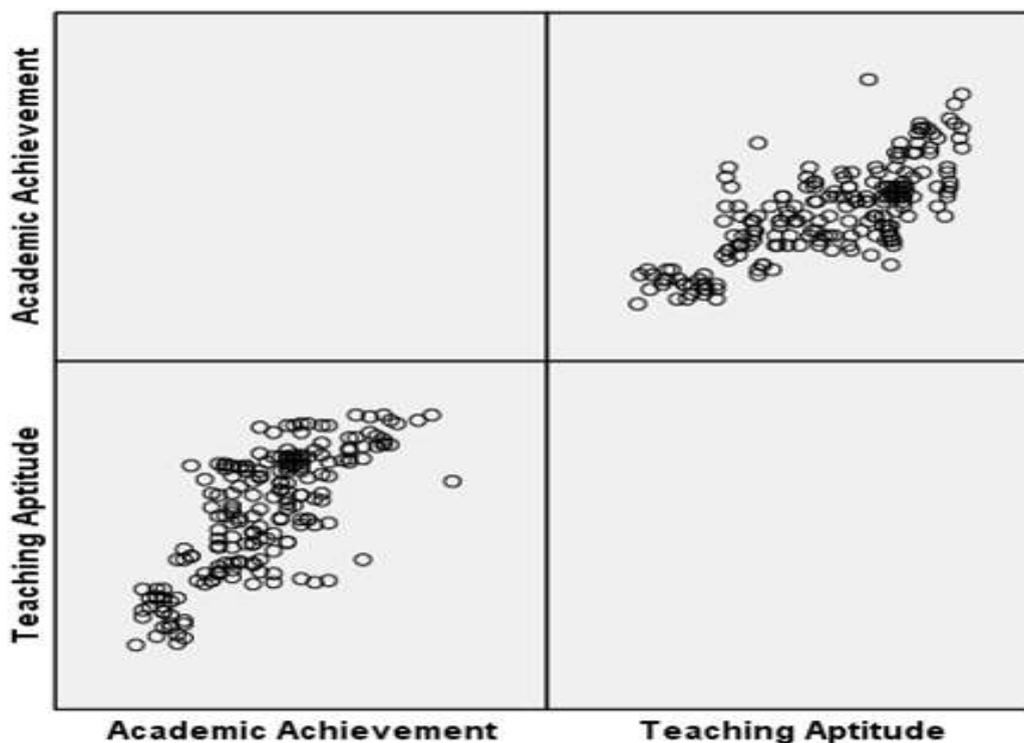
HO3: There is no significant correlation between teaching aptitude and academic achievement of pupil's teacher of various TTIs under Sambalpur University. (Rejected)

Table 6 Correlation between teaching aptitude and academic achievement

Correlation	Academic Achievement	Teaching Aptitude
Academic Achievement	1.00	0.751
Teaching Aptitude	0.751	1.00

Figure 3 Scatter Diagram representing relationship between Teaching Aptitude and Academic Achievment

Correction between Teaching Aptitude and Academic Achievement (R=0.7519)

The above table revealed that the co-efficient correlation between teaching aptitude and academic achievement is 0.751. It shows a positive correlation between teaching aptitude and academic achievement. The magnitude of correlation is significant at 0.05 levels. The study hereby concludes that there is a significant relationship between teaching aptitude and academic achievement of pupil teachers under Sambalpur University. Hence, the null hypothesis is rejected.

HO4: There is no significant difference between pupil teacher of high-level academic backgrounds and low-level academic backgrounds. (not accepted)

Table 7 Difference between high academic background and low academic background

Academic Achievement	Mean	SED	t	df	Significant/Not Significant
High Academic Background	56.656	1.66	8.81	198	Significant @ 0.05 level
Low Academic Background	42.020				

On 198 degree of freedom, the Critical t worth (table) to be significant at 0.05 level is 1.98. The

found t value (8.81) is significant at 0.05 levels as the calculated value is above the critical value (8.81>1.98). There is also a substantial gap between high academic and low-level student teachers. It is possible to conclude that there are significant differences. Academic backgrounds therefore play an important role in teaching pupils' academic achievement. The null hypothesis in this agreement is also dismissed.

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