COMPARATIVE STUDY ON THE TEACHING COMPETENCY AND ACADEMIC ACHIEVEMENT OF RURAL AND URBAN SECONDARY SCHOOL TEACHERS AND STUDENTS OF CHITRADURGA DISTRICT

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1. Teaching competency and Academic achievement.

2. Rural & urban secondary schools.

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Abstract

The present study was conducted to compare & correlate the teaching competencies and academic achievement of rural and urban Secondary school teachers and students of Chitradurga district. Researcher selected 150 teachers of secondary schools in Chitradurga district (Karnataka) from 50 schools (both rural & urban) as sample and administered academic achievement test to the students of 9th standard using academic achievement test tool and collected the data of teachers by using teaching competency scale. Academic achievement test tool and teaching competency scale, both were designed by the researcher himself. The data was analysed by using descriptive statistics-mean & standard deviation, Karl Pearson's Product momentum correlation and simple linear regression model was applied. The analysis of the data has clearly indicated a positive and significant relationship between academic achievements of students with teaching competency. Further, the academic achievement of students is influenced by teaching competency of teachers of secondary schools.

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1. Introduction

Now-a-days lot of discussion is going on with regard to the quality of education. Quality of education is mainly based on the quality of curriculum, methods and teachers. A teacher will play very important role in the process of education. So the quality of teachers is mainly come from the competency of the teacher in which how best the he can transact the curriculum efficiently, effectively and skilfully to the student community. The competency of a teacher can definitely help in increasing the academic performance of the students. Without competent and effective teachers, education is likely to remain incomplete. The competency and effectiveness of teacher is measured in terms of students' performances. An effective teacher is always competent, but a competent teacher may not be effective.

2. Objectives of the study:

1.   To study the teaching competencies of teachers of rural and urban secondary schools.

2.   To study the academic achievement of students of rural and urban secondary schools.

3.   To study the difference between teachers of rural and urban secondary schools with respect to academic achievement of students.

4.   To study the significant difference between teachers of rural and urban secondary schools with respect to teaching competency.

3. Hypothesis of the study:

1.   There is no significant difference between teachers of rural and urban secondary schools with respect to academic achievement of students.

2.   There is no significant difference between teachers of rural and urban secondary schools with respect to teaching competency.

3.   Teaching competency of teachers of rural secondary schools would be significant predictor of academic achievement of students.

4.   Teaching competency of teachers of urban secondary schools would be significant predictor of academic achievement of students

4. Research Method

For the present study, the investigator has used descriptive research.

5. Sample

The sample selected for the present study consisted of 150 teachers from 50 secondary schools on random sampling technique and their students studying in 9th standard.

Sl.No	Taluks	Govt.High Schools	Teachers	Aided High Schools	Teachers
1	Challakere	4	12	5	15
2	Chitradurga	4	12	6	18
3	Hiriyur	4	12	4	12
4	Holalkere	3	9	5	15
5	Hosadurga	3	9	7	21
6	Molakalmuru	2	6	3	9
	Total Schools	**20**	**60**	**30**	**90**

6. Variables:

1. Teaching competency.
2. Academic achievement.
3. Rural & urban secondary schools.

7. Tools used for the collection of Data:

1] Teaching competency Tool:

This tool was developed by the researcher himself for the purpose of the present study. There was a need to develop the tool, since the researcher was not satisfied with the available tools developed by the earlier researchers. Researcher consulted the experts during finalizing the items for the tool. The tool was based on the ten competencies categorised by NCTE. The ten competencies were grouped by the researcher as Classroom competencies (Tool-A): 1) Content competency 2) Transactional competency 3) Competency to develop teaching learning material 4) Evaluation competency 5) Management competency and other competencies (Tool-B): 6) Contextual competency 7) Conceptual competency 8) Educational activities related competency 9) Competency related to other educational activity 10) Competency related to working with parents.

2] Academic achievement test:

The tool was designed by the researcher to collect the required data related to academic achievement. For this researcher has opted 9th Standard mathematics, science and social science subjects of first term portion. Multiple choice questions are designed from the units of these subjects. Initially 60 questions from each subject are drawn. By discussing with experienced teachers, subject experts and educationist, the blue print of the questionnaire was prepared. Pilot study was made to select the items, finally 100 questions were selected, and each question carries one mark. The researcher collected the required data related to academic achievement by administering the tool to 9th Standard students of secondary schools.

8. Statistical Techniques used for Data Analysis:

To analyse the data t-test, Karl Pearson's product moment and Tukeys Multiple Posthac procedures were used.

Table: Summary statistics (n, mean and SD) of academic achievement scores of students of rural and urban secondary schools

Summary	Rural	Urban	Total
n	42	108	150
Mean	13.92	16.44	15.74
SD	3.83	3.74	3.92

The above table represents the summary statistics (n, mean and SD) of academic achievement scores of students of rural and urban secondary schools. It clearly showed that, the total mean of academic achievement scores of students is 15.74±3.92, in which, the students of urban secondary schools have higher academic achievement scores (16.44±3.74) as compared to students of rural secondary schools (13.92±3.83).

Table: Summary statistics (n, mean and SD) of teaching competency and its scores of teachers of rural and urban secondary schools

Variables	Summary	Rural	Urban	Total
	n	42	108	150
	Mean	30.67	32.36	31.89
Total teaching competency	SD	2.46	2.44	2.55

The above table represents the summary statistics (n, mean and SD) of teaching competency and its scores of teachers of rural and urban secondary schools. It clearly indicated the followings:

- The total mean of teaching competency of teachers of secondary schools is 31.89±2.55, in which, the teachers of urban secondary schools (32.36±2.44) have higher total teaching competency scores as compared to teachers of rural secondary schools (30.67±2.46).
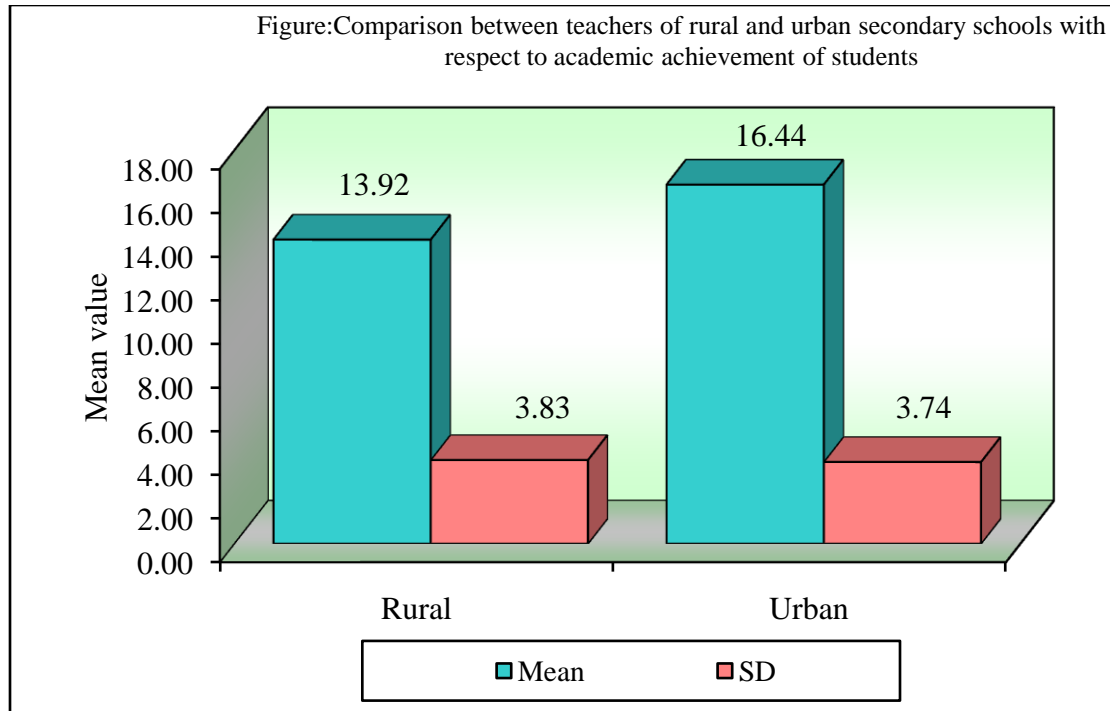
Hypothesis -1: No significant difference between teachers of rural and urban secondary schools with respect to academic achievement of students.

To accomplish the above null hypothesis or assumption, the independent t test was applied and the results are presented in the table given below.

Table: Comparison between teachers of rural and urban secondary schools with respect to academic achievement of students

Variable	Rural		Urban		t-value	p-value	Signi.
	Mean	SD	Mean	SD			
Academic achievement	13.92	3.83	16.44	3.74	-3.6899	0.0003	S

From the results of the above table, it can be seen that, the teachers of rural and urban secondary schools differs significantly with respect to academic achievement scores of students (t=-3.6899, p<0.05) at significance of level of 5 percent. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, the teachers of urban secondary schools have significant higher academic achievement scores of students as compared to teachers of rural secondary schools. The mean scores are also presented in the following figure.

Figure: Comparison between teachers of rural and urban secondary schools with respect to academic achievement of students

Hypothesis-2: No significant difference between teachers of rural and urban secondary schools with respect to teaching competency.

To accomplish the above null hypothesis or assumption, the independent t test was applied and the results are presented in the table given below.

Table: Comparison between teachers of rural and urban secondary schools with respect to teaching competency and its components

Variables	Rural		Urban		t-value	p-value	
	Mean	**SD**	**Mean**	**SD**			**Signi.**
Total teaching competency	30.67	2.46	32.36	2.44	-3.8062	0.0002	S

From the results of the above table, it can be seen that,

• The teachers of rural and urban secondary schools differs significantly with respect to their total teaching competency scores (t=-3.8062, p<0.05) at significance of level of 5 percent. Therefore, the null hypothesis is rejected and alternative hypothesis is accepted. It means that,

the teachers of urban secondary schools have significant higher total teaching competency scores as compared to teachers of rural secondary schools.

Figure: Comparison between teachers of rural and urban secondary schools with respect to teaching competency and its components
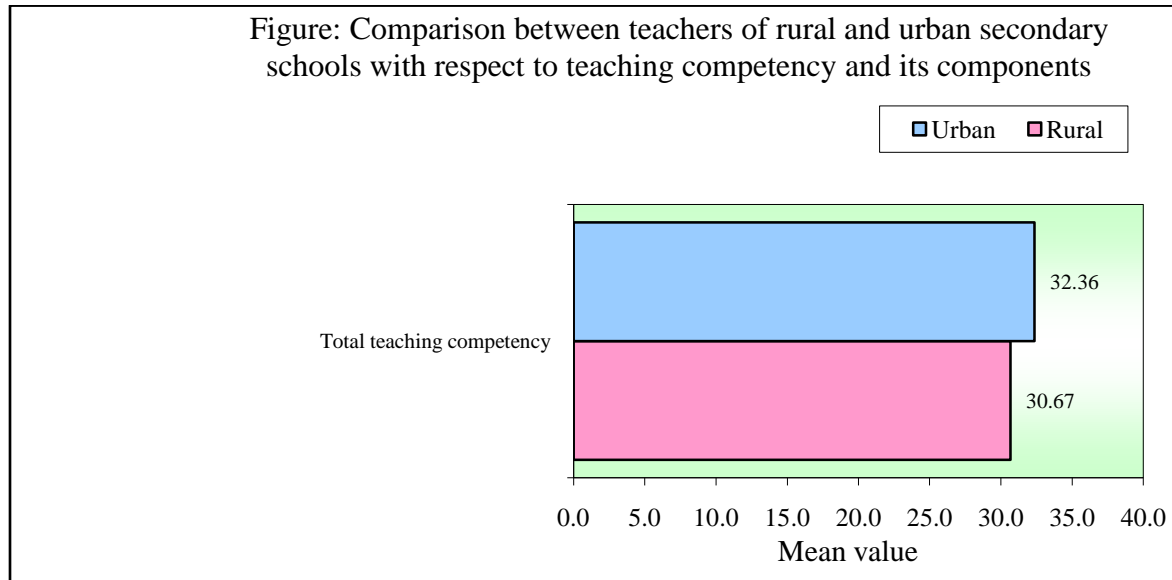
Hypothesis-3: Teaching competency of teachers of rural secondary schools would be significant predictor of academic achievement of students

       To achieve the above null hypothesis, the simple linear regression model was applied and the results are presented in the following table.

Table: Simple linear regression analysis of academic achievement of students by teaching competency of teachers of rural secondary schools

Independent variable	Estimate	SE of estimate	t-value	p-level	Signi.
Constant	-32.1977	1.9933	-16.1526	0.0001	S
Teaching competency	1.5036	0.0648	23.2064	0.0001	S
R=0.9648, R²=0.9308,F(1,40)=538.54 p<0.05, S, Std.Error of estimate: 1.0190					

From the results of the above table, it can be seen that, the combined effect of teaching competency of teachers of rural secondary schools on academic achievement of students is found to be positive and statistically significant at 5% level of significance. It means that, the academic achievement of students is influenced by teaching competency of teachers of rural secondary schools.

The R of the linear regression equation is 0.9648. For testing R, the F-ratio (538.54) was found to be significant at 5% level. Thus, the null hypothesis is rejected and alternative hypothesis is accepted. Significant R suggests that estimation of academic achievement of students is possible on the basis of the teaching competency of teachers of rural secondary schools.

Further, it means that teaching competency of teachers of rural secondary schools can be used to prediction of academic achievement of students. The coefficient of determination of R^2 is 0.9308. It can be therefore, be said that nearly 93.08 percent of contribution of teaching competency of teachers of rural secondary schools on academic achievement of students. The prediction regression line of teaching competency of teachers of rural secondary schools on academic achievement of students is also presented in the following figure.

Figure: Regression analysis of academic achievement of students by teaching competency of teachers of rural secondary schools
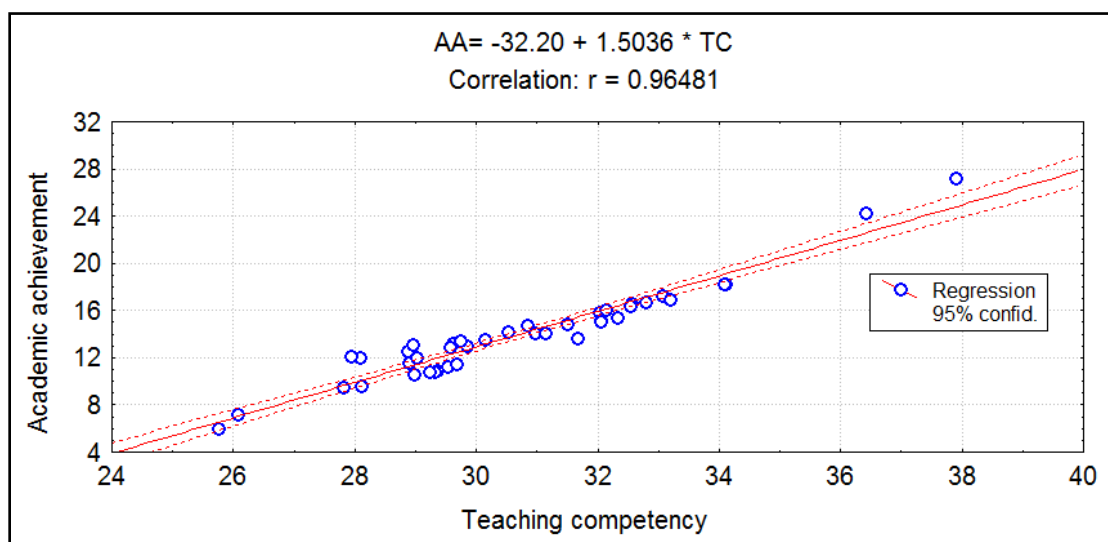
Hypothesis-4: Teaching competency of teachers of urban secondary schools would be significant predictor of academic achievement of students

To achieve the above null hypothesis, the simple linear regression model was applied and the results are presented in the following table.

Table: Simple linear regression analysis of academic achievement of students by teaching competency of teachers of urban secondary schools

Independent variable	Estimate	SE of estimate	t-value	p-level	Signi.
Constant	-30.4842	1.5929	-19.1380	0.0001	S
Teaching competency	1.4502	0.0491	29.5441	0.0001	S
R=0.9443, R²=0.8917, F(1,106)=872.86 p<0.05, S, Std. Error of estimate: 1.2376					

From the results of the above table, it can be seen that, the combined effect of teaching competency of teachers of urban secondary schools on academic achievement of students is found to be positive and statistically significant at 5% level of significance. It means that, the academic achievement of students is influenced by teaching competency of teachers of urban secondary schools.

The R of the linear regression equation is 0.9443. For testing R, the F-ratio (872.86) was found to be significant at 5% level. Thus, the null hypothesis is rejected and alternative hypothesis is accepted. Significant R suggests that estimation of academic achievement of students is possible on the basis of the teaching competency of teachers of urban secondary schools.

Further, it means that teaching competency of teachers of urban secondary schools can be used to prediction of academic achievement of students. The coefficient of determination of R^2 is 0.8917. It can be therefore, be said that nearly 89.17 percent of contribution of teaching competency of teachers of urban secondary schools on academic achievement of students. The prediction regression line of teaching competency of teachers of urban secondary schools on academic achievement of students is also presented in the following figure.

Figure: Regression analysis of academic achievement of students by teaching competency of teachers of urban secondary schools

$$AA = -30.48 + 1.4502 * TC$$
Correlation: $r = 0.94430$
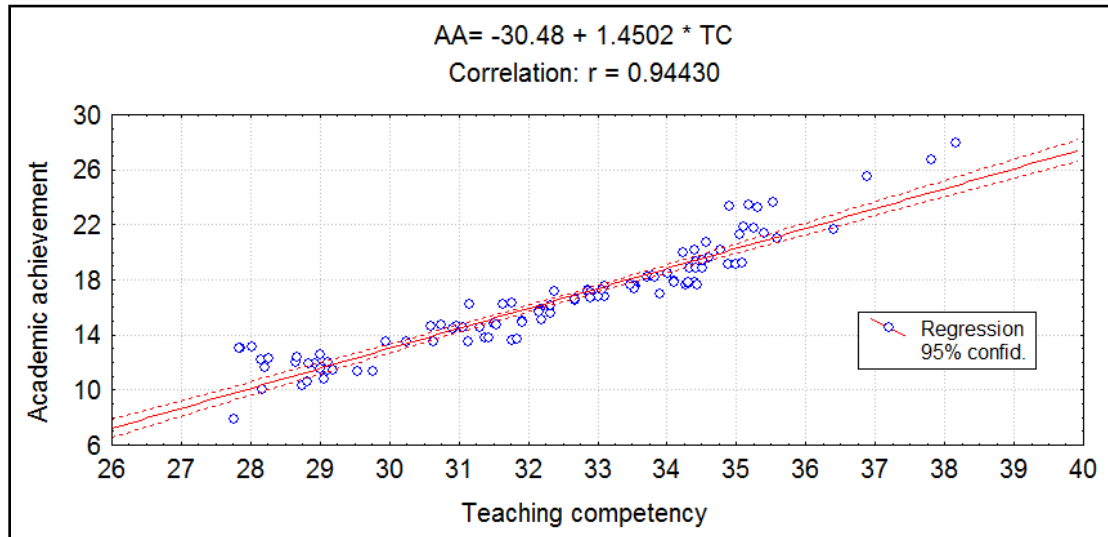
9. Results of the study:

1.   The teachers of rural and urban secondary schools differs significantly with respect to academic achievement scores of students ($t = -3.6899$, $p < 0.05$) at significance of level of 5 percent.

2.   The teachers of rural and urban secondary schools differs significantly with respect to their total teaching competency scores ($t = -3.8062$, $p < 0.05$) at significance of level of 5 percent.

3.   The combined effect of teaching competency of teachers of rural secondary schools on academic achievement of students is found to be positive and statistically significant at 5% level of significance.

4.   The combined effect of teaching competency of teachers of urban secondary schools on academic achievement of students is found to be positive and statistically significant at 5% level of significance.

10. Educational Implications:

1.   The present study will be helpful to organize professional improvement programmes to improve teaching competency of teachers.

2.   The present study provides feed back to the teachers to improve their teaching competency.

3.   The present study will help the teacher to plan for remedial classes to improve the academic achievement of students.

4.   The present study will be helpful to provide essential resources to both Urban and Rural schools to improve the teaching and learning.

11. Conslusion:

The results of the present study reveal that the teachers of urban secondary schools have significant higher academic achievement scores of students as compared to teachers of rural secondary schools. The teachers of urban secondary schools have significant higher total teaching competency scores as compared to teachers of rural secondary schools.

The academic achievement of students is influenced by teaching competency of teachers of both rural and urban secondary schools.

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