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TEACHER COMMITMENT AND STUDENT ACHIEVEMENT IN CHEMISTRY AT HIGHER SECONDARY LEVEL

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Abstract:

A teacher is an instrument to provide the academic setting for the learner in the classroom. This study deals with the teacher commitment and student achievement in chemistry at higher secondary level. The major objective of the study is to find out the significant relationship between teacher commitment and student achievement in chemistry at higher secondary level. This study employs the normative survey method. The sample comprises of 200 higher secondary students selected from different schools in Kanyakumari District. The background variables are gender and type of school. For the present investigation the tools used are Teacher Commitment Scale and Achievement Test in Chemistry developed by the investigator. The statistical techniques used were mean, standard deviation, t-test, and ANOVA and person's product moment method of correlation. The major findings of the study reveal that there is significant relationship between teacher commitment and student achievement in chemistry at higher secondary level with respect to gender and type of school.

Key Words: Teacher Commitment, Student Achievement & Higher Secondary Level

Introduction:

A teacher is an instrument to provide the academic setting for the learner in the classroom. The teacher concentrates on multidimensional preparation for accommodating different kinds of learners. Therefore, the role of a teacher has taken a new dimension in the learner -centered classroom (Jayanthimony, 2005). Professional development for teachers has a direct impact on student learning and achievement and it plays important, independent roles in improving organizational capacity and enhancing teacher capital (Majid, 2014). A committed teacher develops knowledge, desirable attitudes and required skills. Some teachers see their commitment as part of their professional identity, it defines them and their work and they get a lot of enjoyment from this. Other teachers feel the demands of teaching to be significant, requiring great personal investment and view it as a job that can 'take over your life'. These teachers often limit their commitment and their engagement with the school, as a means of survival. In some cases, these teachers choose to leave the profession altogether (Rana, 2014). The relationship between commitment of teachers and its consequences to their competencies and skills on the one hard, and to their performance on the other, should be clearly brought out and established. It is indeed, the need of the hour. Teachers are to imbibe a high level of commitment; learners are to be imbued with commitment to learning. Only then, we will be able to achieve the goals of education (Vijayalakshmi, 2005). Academic achievement is one of the basic expectations and has been attracting credentials from all and at all levels (Anandharaja, Balakrishnan & Lawrence, 2016a). Student achievement today has become a hot topic in the field of education. It is a factor that matters a lot for the teachers, parents and students (Anandharaja, Balakrishnan & Lawrence, 2016b). The investigator wants to find out the relationship between teacher commitment and student achievement in chemistry at higher secondary school students. Hence the investigator made an attempt to conduct a study on "Teacher Commitment and Student Achievement in Chemistry at Higher Secondary Level".

Objectives of the Study:

- ✓ To find out the significant difference, if any, in the teacher commitment at higher secondary level with respect to (i) gender and (ii) type of school.
- ✓ To find out the significant difference, if any, in the student achievement in chemistry at higher secondary level with respect to (i) gender and (ii) type of school.
- ✓ To find out whether there is any significant correlation between teacher commitment and student achievement in chemistry at higher secondary level.

Hypotheses of the Study:

The following are the major hypotheses framed for the present investigation.

- ✓ There is no significant difference in the mean scores of male and female higher secondary school students with respect to teacher commitment.
- ✓ There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to teacher commitment.

- ✓ There is no significant difference in the mean scores of male and female higher secondary school students with respect to student achievement in chemistry.
- ✓ There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to student achievement in chemistry.
- ✓ There is no significant correlation between teacher commitment and student achievement in chemistry of higher secondary school students.

Methodology:

The investigator adopted the normative survey method of research to study the teacher commitment and student achievement in chemistry at higher secondary level. A sample of 200 students was randomly selected from different higher secondary schools of Kanyakumari District. The investigator developed the tools for Teacher Commitment and Student Achievement in Chemistry and validated them. The analysis of the data was carried out using statistical techniques mean, standard deviation, t-test, ANOVA and coefficient of correlation.

Result and Discussion:

Hypothesis 1: There is no significant difference in the mean scores of male and female higher secondary school students with respect to teacher commitment.

Table 1: Difference between male and female higher secondary school students with respect to teacher commitment at higher secondary level

Gender	Mean	SD	N	t	p	Remark
Male	443.80	72.96	85	2.945	0.004	Significant at 0.01 level
Female	472.10	58.48	115			

From table-1, it is known that the calculated 't' value (2.945) is significant at 0.01 level of significance. It means that there is a significant difference in the mean scores of male and female higher secondary school students with respect to teacher commitment at higher secondary level. The calculated p-value is less than 0.01. Hence the hypothesis, "There is no significant difference in the mean scores of male and female higher secondary school students with respect to their teacher commitment" is rejected at 0.01 level of significance. Hence there is significant difference in the mean scores of male and female higher secondary school students with respect to teacher commitment.

Hypothesis 2: There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to teacher commitment.

Table 2: Sum of squares and mean square variance of Teacher commitment at higher secondary level based on type of School

Type of School	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Boys	Between Group	54129.69	27064.85	2	6.487	0.002	Significant at 0.01 level
Girls	Within Group	821958.18	4172.38	197			
Co-education	Total	876087.87		199			

From table-2.0, it is known that the calculated 'p' value is less than 0.01 at 0.01percent level of significance. Therefore the hypothesis, "There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to teacher commitment" is rejected at 0.01 percent level of significance. Hence there is significant difference in the teacher commitment of the students of boys' school, girls' school, and co-education schools. To find out the significant difference among the group, post-Hoc Scheffe's test was applied.

Table 2.1:

Type of School	N	Mean	SD	Pair	p (Scheffe)	Remark
Boys	34	434.29	79.3	A Vs B	0.520	NS
Girls	67	449.88	64.09	B Vs C	0.042	Sig. at 0.05 level
Co-education	99	475.83	59.19	A Vs C	0.006	Sig. at 0.01 level

From table 2.1, it is clear that students of Boys' school and Girls' school do not differ with respect to teacher commitment, but students of Girls' school and Co-education school and students of Boys' school and Co-education schools differ with respect to teacher commitment. The post-hoc test analysis reveals that the significant difference exists in the teacher commitment of the students of boys' school, girls' school, and co-education schools

Hypothesis 3: There is no significant difference in the mean scores of male and female higher secondary school students with respect to student achievement in chemistry.

Table 3: Difference between male and female higher secondary school students with respect to Student achievement in Chemistry at higher secondary level

Gender	Mean	SD	N	t	p	Remark
Male	21.35	6.08	85	2.208	0.028	Significant at 0.05 level
Female	23.27	6.08	115			

From table 3, it is known that the calculated 't' value (2.208) is significant at 0.05 level (5 percent level of significance). It means that there is significant difference in the mean scores of male and female higher secondary school students with respect to student achievement at higher secondary level. The calculated p-value is less than 0.05 (5 percent level of significance). Hence the hypothesis, "There is no significant difference in the mean scores of male and female higher secondary school students with respect to student achievement in Chemistry" is rejected at 0.05 level of significance. Hence there is significant difference in the mean scores of male and female higher secondary school students with respect to student achievement.

Hypothesis 4: There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to student achievement in chemistry.

Table 4: Sum of squares and mean square variance of Teacher commitment at higher secondary level based on type of school

Type of School	Variance Squares	Sum of Squares	Mean Square	df	F	p	Remark
Boys	Between Group	492.75	27064.85	2	6.935	0.001	Significant at 0.01 level
Girls	Within Group	6998.85	4172.38	197			
Co-education	Total	7491.60		199			

From table 4.0, it is known that the calculated 'p' value is less than 0.01 at1 percent level of significance. Therefore the hypothesis, "There is no significant difference in the mean scores of higher secondary school students of boys' school, girls' school, and co-education schools with respect to student achievement in chemistry" is rejected at 0.01percent level of significance. Hence there is significant difference in student achievement in chemistry of the boys' school, girls' school, and co-education schools. To find out the significant difference among the group, Post-Hoc Scheffe's test was applied.

Table 4.1:

Type of School	N	Mean	SD	Pair	p (Scheffe)	Remark
Boys	35	19.89	5.26	A Vs B	0.377	NS
Girls	67	21.63	6.14	B Vs C	0.053	NS
Co-education	98	23.94	6.07	A Vs C	0.003	Significant at 0.01 level

From table 4.1 it is clear that students of Boys' school and Girls' school do not differ with respect to student achievement in chemistry, but students of Girls school and Co-education school and students of Boys' school and Co-education schools differ with respect to student achievement in chemistry. The post-hoc test analysis reveals that significant difference exists in the student achievement in chemistry of students of boy's school, girl's school, and co-education schools.

Hypothesis 5: There is no significant correlation between teacher commitment and student achievement in chemistry of higher secondary school students.

Table 5: Relationship between Teacher commitment and Student achievement in Chemistry at Higher Secondary School students

Background Characteristics		Pearson Correlation	p	Remark
Total		0.415	0.000	Sig. at 0.01 level
Gender	Male	0.435	0.000	Sig. at 0.01 level
	Female	0.364	0.000	Sig. at 0.01 level
Type of school	Boys	0.540	0.001	Sig. at 0.01 level
	Girls	0.410	0.001	Sig. at 0.01 level
	Co-education	0.290	0.004	Sig. at 0.01 level

From table 5, p value is less than 0.01. Therefore the null hypothesis is rejected. It shows that there is significant relation between teacher commitment and student achievement in chemistry at higher secondary level with respect to gender and type of school.

Conclusion:

The t-test shows that there is significant difference to teacher commitment at higher secondary level with respect to gender and type of school. Also there is significant difference in the student achievement in chemistry at higher secondary level with respect to gender and type of school. The Pearson's Product Moment

Correlation shows that there is significant relation between teacher commitment and student achievement in chemistry at higher secondary level in total and also with respect to gender and type of school.

References:

1. Anandharaja, S., Balakrishnan, V., & Lawrence, A. J. (2016a). Academic Achievement of Tenth Standard Government and Private School Students in Social Science Curriculum: A Comparative Study. *International Journal of Multidisciplinary Research and Modern Education*, *2*(2), 73-80.
2. Anandharaja, S., Balakrishnan, V., & Lawrence, A. J. (2016b). Development and standardization of academic achievement test in Social Science. *International Journal of Computational Research and Development*, *1*(1), 97-101.
3. Jayanthimony, M. (2005). Learner-centered class room: Role of the teacher. Learning Centered Education, 31.
4. Majid, R. (2014). Enhancing teacher capital. *Teacher Plus*, 19-21.
5. Rana, S. (2014). Role commitment of secondary school teachers in relation to some demographic variables. *Journal of Educational & Psychological Research*, *4*(2), 236-237.
6. Vijayalakshmi, K. S. (2005). Teacher commitment its approaches. *Learning Centered Education*, 91-92.