

# Differential Influence Of Demogra Phicson The Teaching Competency Of Secondary School Teachers Of Kerala

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## ARTICLE INFO

## ABSTRACT

The study aims to explore the differential influence of demographic factors like gender, educational qualification, length of service experience, and type of school management on teaching competency of secondary school teachers of Kerala. The descriptive cross-sectional study employed normative survey to collect data from a stratified random sample of 247 teachers working in various secondary schools in Ernakulam district. Data were collected by administering the Teaching Competency Scale for Secondary School Teachers and a Personal Data Sheet. Analysis of data was done in SPSS by using independent sample t-test, one way ANOVA and Scheffe's post-hoc test. The results showed significant differential effect of gender, educational qualification, service experience and type of school management on the teaching competency of secondary school teachers. The male teachers were found to be more competent in teaching than the female teachers. Differential effect of educational qualification on teaching competency favoured teachers with postgraduation. Teachers with average length of service experience (11-20 years) were found to surpass low experienced (less than 10 years) and high experienced (more than 20 years) teachers in their teaching competency. Likewise, teachers working in government schools outshined their colleagues working in aided schools and unaided schools in their teaching competency.

**Keywords:** Teaching competency, Differential effect, Demographic factors, Secondary school teachers.

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## Introduction

Over the past several years, there has been a substantial alteration in the standard of schooling. In the past, the primary objective of education was to impart specific information to pupils, which they were then expected to utilise in the future. Modern education, in contrast, seeks to instruct pupils in the acquisition of life skills, independent knowledge acquisition, and innovative work methodologies (Herald, Philip, Sharma, Ganguly & Educate, 2024; OECD, 2016). Producing new ideas is much valued in modern society. We want experts that possess cultural competence, exceptional talent, imaginative and creative problem-solving abilities, as well as advanced skills in critical thinking (Thornhill-Miller et al., 2023; Raj, Chauhan, Mehrotra & Sharma, 2022). The competency of teachers is a fundamental factor influencing the quality of education (Zhou et al., 2024; Prasertcharoensuk, Somprach & Tang, 2015). Competent teachers possess a combination of knowledge, skills, and attitudes that enable them to effectively facilitate learning and support the holistic development of their students (Sulaiman & Noor, 2020).

Teaching competence is essential for ensuring high-quality school education as it directly impacts student engagement, learning outcomes. Competent teachers possess a combination of knowledge, skills, and attitudes that enable them to effectively facilitate learning and support the holistic development of their students. Teachers with high professional competence possess a diverse range of personality characteristics that contribute to their effectiveness in the classroom. They are deeply passionate about their subject matter and teaching itself (Serin, 2017). They exhibit patience when working with students who may struggle to grasp concepts or exhibit challenging behaviors (Herndon, 2021). Competent teachers are adaptable and able to modify their teaching strategies and lesson plans to meet the needs of diverse learners (Barnard & Henn, 2023; Hidayah & Morganna, 2019), demonstrate empathy and understanding towards their students' backgrounds, experiences, and learning styles (Aldrup, Carstensen & Klusmann, 2022). They also possess strong

organizational skills to effectively manage classroom activities, assignments, and assessments (Zainuddin & Hardiansyah, 2023). Competent teachers are creative in their approach to teaching, incorporating innovative methods, activities, and resources to enhance learning experiences (Nanaware & Sharma, 2021). Another important set of factors that is likely to influence the professional competence of teachers are the demographic factors. Although a growing body of research has demonstrated the effect of teachers own personality on professional effectiveness and competency of secondary school teachers, limited work has considered the differential influence of socio-demographic factors on the teaching competency of secondary school teachers. In this context, the present study examines the differential influence selected demographic factors on teaching competency of teachers working in secondary schools of Kerala.

### Objectives

The study aims to find out the differential influence of demographic factors like gender, educational qualification, experience, type of school management on teaching competency of secondary school teachers.

### Hypotheses

The following null hypotheses were tested for the study:

1. Male and female teachers do not differ significantly in their teaching competency.
2. Graduate and postgraduate teachers do not differ significantly in their teaching competency.
3. High, average and low experienced teachers differ significantly in their teaching competency.
4. Teachers working in government, aided and unaided schools do not differ significantly in their teaching competency.

### Methodology

- 1) *Method*: The descriptive cross-sectional study used normative survey method to collect data.
- 2) *Population*: The population of the study is teachers working in secondary schools (high schools) affiliated to Kerala Board of Public Examinations, and located within the revenue boundary of Ernakulam district of the Indian state of Kerala. The size of the population, as per government sources, is 7322 (Govt. of Kerala, 2022).
- 3) *Sample*: A stratified random sample of 247 teachers were selected from 16 secondary schools of Ernakulam district. The stratification was made on the basis of locale of the school (rural and urban), and type of school management (government, aided and unaided).
- 4) *Measures*: Teaching competency of the sample was measured by administering the Teaching Competency Scale for Secondary School Teachers (TCST) developed by Sheena and Arjunan (2015). The TCST is a 40-item, five-point rating scale (Excellent, Very Good, Good, Satisfactory and Poor) assessing the variable in five domains, viz., planning, instructional presentation, teaching aides, class management, and monitoring of student performance. The instrument has a concurrent validity of 0.73 and split-half reliability of 0.79. The demographic information needed for the study was collected with the help of a General Data Sheet prepared by the researchers for the purpose.
- 5) *Statistical techniques*: The data were analysed by using SPSS. Independent sample t-test, one way ANOVA, and Scheffe's post-hoc test were used to test the hypotheses.

### Analysis and Interpretation

The male and female teachers in the secondary schools were compared with respect to their teaching competency to find out the significant difference, if any, between the gender groups. The result of the independent sample t-test is given in Table 1.

Table 1: Comparison of male and female teachers regarding teaching competency

Sub-samples	N	M	SD	SE <sub>M</sub>	t-value	Sig.
Male	88	126.90	17.54	1.87	2.611	.01
Female	159	121.15	16.01	1.27		

The t-value obtained on comparing the male and female teachers regarding their teaching competency is significant at 99% confidence interval ( $t = 2.611$ ;  $p < .01$ ). It indicates that there is a true difference between male and female teachers with regard to their teaching competency. Inspection of the mean score of teaching competency estimated for the male teachers ( $M = 126.90$ ) and the female teachers ( $M = 121.15$ ) exposes that gender difference goes in favour of the male teachers.

The graduate and postgraduate teachers working in secondary schools were compared to find out the differential influence of educational qualification on their teaching competency. The result of the two-tailed test performed in this context is given in Table 2.

Table 2: Comparison of graduate and postgraduate teachers regarding teaching competency

Sub-samples	N	M	SD	SE <sub>M</sub>	t-value	Sig.
Graduate	154	120.38	15.75	1.269	3.480	.01
Postgraduate	93	127.87	17.42	1.806		

Comparison of graduate and postgraduate teachers working in secondary schools produced a t-value which is significant beyond 99% confidence interval ( $t = 3.480$ ;  $p < .01$ ). It exposes the presence of an actual difference between graduate and postgraduate teachers in the population regarding their teaching competency. Scrutiny of the mean estimates reveals that the postgraduate teachers ( $M = 127.87$ ) surpass the graduate teachers ( $M = 120.38$ ) in their teaching competency.

In order to find out the differential influence of service experience on teaching competency, teachers with high experience (more than 20 years), average experience (11-20 years) and low experience (less than 10 years) were compared with regard to their teaching competency. Table 3 presents the summary of one-way ANOVA performed intelligence his regard.

Table 3: Comparison of teaching competency of high, average and low experienced teachers (Summary of ANOVA)

TC	Sum Squares	of df	Mean Square	F	Sig.
Between Groups	11074.509	2	5537.254	23.273	.000
Within Groups	58054.771	244	237.929		
Total	69129.279	246			

The F-ratio estimated is significant beyond 99.9% confidence interval ( $F = 23.273$ ;  $p < .001$ ), revealing that teachers with high, average and low service experiences differ significantly in their teaching competency. The significance of the F-ratio subsequently led to post-hoc test so as to find out whether the observed difference exists between all the group pairs compared. Table 4 presents the results of the Scheffe's post-hoc test.

Table 4: Post-hoc tests for comparison of high, average and low experience groups of teachers regarding their teaching competency

(I) Experience	(J) Experience	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Lower Bound
LOW	Average	-13.185*	2.337	.000	-18.94	-7.43
	High	.700	2.601	.964	-5.71	7.11
AVERAGE	Low	13.185*	2.337	.000	7.43	18.94
	High	13.885*	2.407	.000	7.96	19.81
HIGH	Low	-.700	2.601	.964	-7.11	5.71
	Average	-13.885*	2.407	.000	-19.81	-7.96

\*. The mean difference is significant at the 0.05 level

The results of the post-hoc test reveals the following: (a) low experienced teachers differ significantly from the average experienced teachers in their teaching competency (Mean difference = 13.185;  $p < .001$ ). Teachers with average service experience excel teachers with low service experience in their teaching competency, (b) there is no significant difference between low experienced teachers and high experienced teachers in their teaching competency (Mean difference = 0.700;  $p > .05$ ), and (c) average experienced teachers differed significantly from the high experienced teachers in their teaching competency (Mean difference = 13.885;  $p < .001$ ), the difference goes in favour of average experience teachers.

The differential effect of type of school management on the teaching competency of secondary school teachers were explored by comparing teachers from government, aided and unaided school with regard to their teaching competency. The result of the one-way ANOVA carried out in this regard is given in Table 5.

Table 5: Comparison of teaching competency of government, aided and unaided school teachers (Summary of ANOVA)

TC	Sum Squares	of df	Mean Square	F	Sig.
Between Groups	3566.402	2	1783.201	6.636	.002
Within Groups	65562.878	244	268.700		
Total	69129.279	246			

The F-ratio obtained on comparing teachers from government, aided and unaided schools with respect to their teaching competency is significant at 99% confidence interval ( $F = 6.636$ ;  $p < .01$ ). It shows that type of school management is a significant decisive factor in the teaching competency of secondary school teachers. The one-way ANOVA was followed by post-hoc test of multiple comparison so as to find out the group pairs which differ significantly. The result of the Scheffe's post-hoc test is given in Table 6.

Table 6: Post-hoc tests for comparison of teachers working in government, aided and unaided schools regarding their teaching competency

(I) Experience	(J) Experience	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Lower Bound
GOVT.	Aided	8.175*	2.378	.003	2.32	14.03
	Unaided	8.279*	3.055	.027	.76	15.80
AIDED	Govt.	-8.175*	2.378	.003	-14.03	-2.32
	Unaided	.104	2.830	.999	-6.87	7.07
UNAIDED	Govt.	-8.279*	3.055	.027	-15.80	-.76
	Aided	-.104	2.830	.999	-7.07	6.87

\*. The mean difference is significant at the 0.05 level

The results of the post-hoc test expose the following: (a) teachers working in government schools differ significantly from teachers of aided schools (Mean difference = 8.175;  $p < .01$ ) and from teachers of unaided schools (Mean difference = 8.275;  $p < .05$ ) in their teaching competency. Inspection of the mean differences shows that teachers from government schools excels their colleagues from both the aided schools and unaided schools, (b) no significant difference was noticed between teachers working in aided schools and unaided schools in their teaching competency (Mean difference = 0.104;  $p > .05$ ).

### Conclusions

The results of the analysis revealed that gender is a significant factor that discriminate secondary school teachers on the basis of their teaching competency. The null hypothesis formulated intelligence his context, viz., Hypothesis-1 (male and female teachers do not differ significantly in their teaching competency) is, therefore, rejected. Significant difference in teaching competency was also found to exists between graduate and postgraduate teachers. The null hypothesis-2 (graduate and postgraduate teachers do not differ significantly in their teaching competency) is, hence, rejected. Length of service experience exert a significant differential influence on the teaching competency of secondary school teachers. The null hypothesis-3 (high, average and low experienced teachers differ significantly in their teaching competency) is, subsequently, rejected. Type of management of the school is decisive in the teaching competency of secondary school teachers. Significant difference exists among government, aided and unaided schools with respect to the professional competency of teachers. Th hypothesis formulated in this context, viz., hypothesis-4 (teachers working in government, aided and unaided schools do not differ significantly in their teaching competency) is, consequently, rejected. In short, demographic factors like gender, educational qualification, service experience and type of school management exert significant differential influence on the teaching competency of secondary school teachers of Kerala.

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