



## A Study of Teaching Competency, General Intelligence and Creativity of Secondary School Teachers

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The present study attempts to compare Teaching competency, general intelligence and creativity of secondary school teachers in relation to gender and type of school. The sample for the study consisted of 850 secondary school teachers of Ghaziabad, U.P. The findings of the study revealed that there is no significant difference in teaching competency of male and female secondary school teachers. The significant main effect of type of school is independent of gender groups, i.e. government school teachers are effective both in case of male and female groups of school teachers. There is significant difference in general intelligence of male and female secondary school teachers, female teachers being more intelligent as compared to male teachers, both in case of government and private schools. The results also show that male teachers of private secondary schools are more creative than female teachers of private secondary schools but not in case of government secondary schools. Government school teachers are significantly high on creativity than private school teachers only in case of female group and not in case of male teachers. Teaching competency is positively and significantly related with general intelligence and creativity among secondary school teachers.

**KEYWORDS:** Teaching Competency, General Intelligence, Creativity, Secondary School Teachers.

### INTRODUCTION:

Teacher plays a pivotal role in educational administration; therefore a teacher must be philosophically, sociologically and psychologically sound so that students imbibe these qualities. Competency of teacher stems from a combination of knowledge, skills and personal characteristics (Katz, 1993), the characteristics which are correlated with competency are: good knowledge of subject matter, ability to organize learning materials, ability to communicate his knowledge to the students successfully and to deal with classroom situations (Gupta & Jain, 2007) and personal characteristics that is enthusiasm, effective communication, adaptable to change, a lifelong learner, competent, accepting of others, patient, willingness to take risks, flexibility, creativity, hardworking and sense of humour (Taylor & Wash, 2003; Colker 2008). A competent teacher helps the students in the development of basic skills, understanding, proper work habits and desirable attitude, value judgment and adequate personal adjustment (Ryan, 1969).

The origin of the concept of intelligence is in antiquity. In the implicit approach definitions or characteristics, attributes and conception of intelligence has been gathered from people asking them what they meant by intelligence; what people say intelligence is. Explicit approach of intelligence which is based or at least tested, on data collected from people performing tasks presumed to measure intelligent functioning and serve as the basis for scientific hypotheses. Spearman (1927) gave the earliest factor theory of intelligence which comprises two kinds of factors, general factor and specific factors. Thurstone (1938) accepted Spearman's theory and identified primary mental abilities. Guilford (1967) in his structure of intellect model proposed that intelligence comprises of 120 elementary abilities, each of which involves the action of some operation upon some content to produce some product.

Under the Triarchic Theory of Intelligence of Sternberg (1985) the intelligent behaviour is the product of analytic, creative and practical abilities. Gardner (1983, 1993) has been foremost among theorists arguing that human cognitive abilities are best envisaged as several independent forms of intelligence i.e. (linguistic, logical/ mathematical, bodily/kinaesthetic, spatial/visual, musical, inter-personal/intrapersonal).

Creativity is multifaceted. Creativity research, rather than having one universal definition, has used a variety of definitions, theories and assessment approaches. Rhodes (1961) developed a framework for a unifying approach to creativity; forming four strands. These strands were the creative person (clustered around personality-related traits and the mental ability to the person to create something new), the creativity process (the function of the mind in creating ideas in the creative person like searching, combining and synthesizing), creative product (the outcome or product being original, unique, valuable and novel), and the creative press (or environment) which influences the ecological press on the person and upon his mental processes and outcomes. Similarly, Mooney (1963) and Rhodes (1967) have referred to these kinds of definitions as the "Four P's" of creativity.

### **OBJECTIVES OF THE STUDY:**

The objectives of the study are as follows:

1. To study teaching competency, general intelligence and creativity of secondary school teachers in relation to gender.
2. To study teaching competency, general intelligence and creativity of secondary school teachers in relation to type of school.
3. To study the relationship between teaching competency, general intelligence and creativity among secondary school teachers.

### **HYPOTHESES OF THE STUDY:**

The hypotheses formulated for the study are:

1. There will be significant difference between male and female secondary school teachers in teaching competency, general intelligence and creativity.
2. There will be significant difference between government and private secondary school teachers in teaching competency, general intelligence and creativity.
3. There will be significant relationship in teaching competency, general intelligence and creativity among secondary school teachers.

### **RESEARCH METHODOLOGY:**

#### **SAMPLE:**

A total of 172 secondary schools were selected for the purpose of the study.

From these schools all the teachers who taught the 9th and 10th classes were selected for participation in the research. In all 850 secondary school teachers from 172 schools in 7 districts of Punjab were included in the sample.

#### **TOOLS USED:**

General Teaching Competency Scale (GTCS) by B. K. Passi and Mrs. M. S. Lalitha (A class room observation schedule) Test of general Intelligence (TGI) by Dr. K. S. Misra and Dr. S. K. Pal and Divergent Production Abilities by Sharma (2006) were administered for collection of data.

### **RESULTS OF THE STUDY:**

The means and standard deviations of teaching competency, general intelligence and creativity scores in each cell of secondary school teachers in relation to gender and type of school are given in Table 1.

**Table 1**

**Means and SD's for Teaching Competency, General Intelligence and Creativity of Secondary School Teachers Belonging to Different Gender and Types of School.**

Group	N	Teaching Competency		General Intelligence		Creativity	
		Mean	SD	Mean	SD	Mean	SD
Govt. Male	250	310.12	27.37	44.60	6.98	401.45	53.19
Govt. Female	200	310.96	26.65	46.75	6.43	403.49	45.76
Private Male	200	305.54	30.20	43.76	7.34	402.65	59.61
Private Female	450	305.68	26.25	45.55	6.75	386.89	46.92
Govt. Total	400	310.56	26.16	45.57	6.81	402.36	49.94
Private Total	400	305.61	27.83	44.65	7.08	394.85	54.20
Male Total	450	308.07	28.73	44.23	7.15	401.99	56.10
Female Total	400	308.35	26.54	46.16	6.60	395.27	47.02

Data in Table 1 reveals that mean teaching competency scores of male secondary school teachers is 308.07 and for female secondary school teachers is 308.35 whereas mean teaching competency scores of private and government secondary school teachers is 305.61 and 310.56 respectively. Similarly the general intelligence means scores of male and female teachers are 44.23 and 46.16 respectively. This shows that mean general intelligence score of female secondary school teachers is higher than male teachers. Table 1 further shows that the mean general intelligence score of private and government secondary school teachers stands at 44.65 and 45.57 respectively. It may be noted from Table 1 that mean creativity score was higher in male secondary school teachers (401.99) as compared to female secondary school teachers (395.27) and mean creativity scores among government secondary school teachers (402.36) is higher than private secondary school teachers (394.85). In order to test the significance of difference in means in teacher effectiveness, general intelligence and creativity scores across gender and type of school among secondary school teachers and for their interaction effect two way analysis of variance was carried out and the results were provided in Table 2.

**Table 2**  
**Summary of Results of Analysis of Variance**

Source of Variance	df	Teaching Competency			General Intelligence			Creativity		
		SS	MS	F	SS	MS	F	SS	MS	F
<b>Gender (A)</b>	1	55.48	55.48	0.07	822.64	822.64	17.32	8609.28	8609.28	3.21
<b>Type of School (B)</b>	1	5063.16	5063.16	6.62	179.67	179.67	3.78	11954.92	11954.92	4.46
<b>Interaction (AxB)</b>	1	25.31	25.31	0.03	6.84	6.84	0.14	16676.20	16676.20	6.22
<b>Within</b>	846	646930.65	764.69		40171.74	47.48		2267832.19	2680.65	
<b>Total</b>	849	652074.59			41180.89			2302072.59		

**MAIN EFFECTS:**

1) Teaching competency, General Intelligence and Creativity in Relation to Gender Results in Table 2 reveals that F-value for the main effect of gender on teacher effectiveness is 0.07, which is not significant. This is indicative of the fact that male and female secondary school teachers do not differ significantly in their teaching competency. The F-value for the main effect of gender on general intelligence is 17.32, which is significant at 0.01 levels of significance. This shows that male and female secondary school teachers differ significantly in their general intelligence, female teachers being more intelligent than male teachers.

The F-value for main effect of gender on creativity came out to be 3.21, which is not significant at 0.05 levels. This indicates that male and female secondary school teachers do not differ significantly in creativity.

2) Teaching competency, General Intelligence and Creativity in Relation to Type of School Data in Table 2 reveals that F-value for the main effect of type of school came out to be 6.62, which is significant at 0.05 level. This shows that there is a significant difference in the teaching competency of private and government secondary school teachers. The perusal of Table 2 also reveals that F-value for the main effect of type of school on general intelligence is 3.78, which is not significant. This shows that private and government secondary school teachers do not differ significantly in their general intelligence. The F-value for main effect of type of school on creativity came out to be 4.46, which is significant at 0.01 levels. This shows that secondary school teachers who teach in government schools may be more creative than those who teach in private secondary schools.

## 3) Interaction Effect

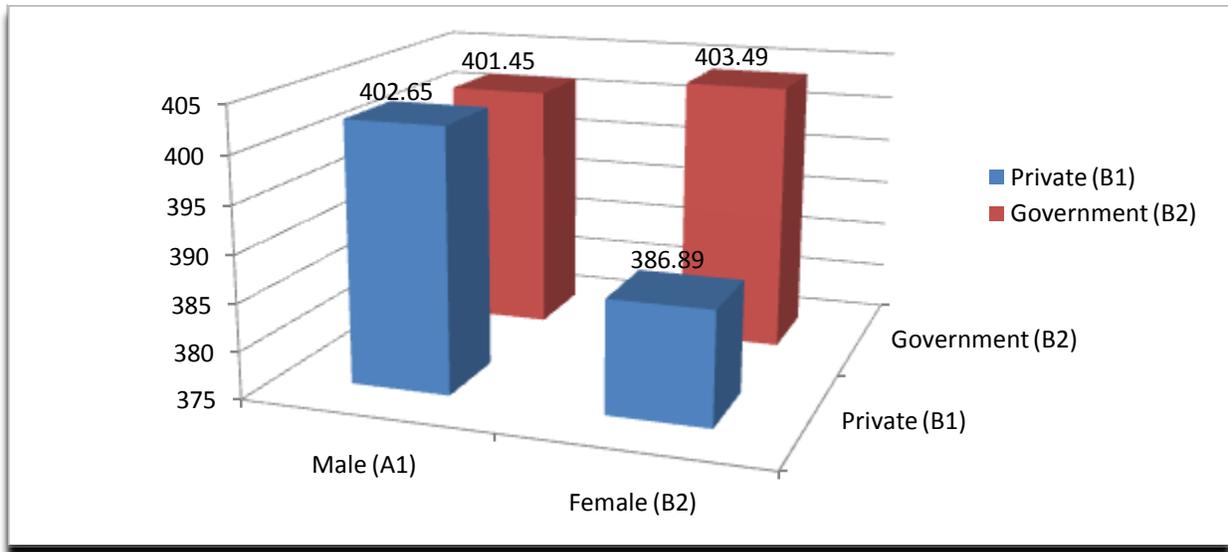
The table 2 also reveals that 'F' values, 0.03 and 0.14, for the interaction effect of gender and type of school on teaching competency and general intelligence was not significant at 0.05 levels. This means that there is no significant interaction effect of gender and type of school on teaching competency and general intelligence. The F-value for the interaction effect of gender X type of school on creativity came out to be 6.22 which is significant at 0.01 level. The t-values testing significance of mean differences in 2x2 interaction are given in the table 3.

**Table 3**

**The t-Ratio for Testing Significance of Difference between Means in Creativity (A x B) (Gender x Type of School) Interaction.**

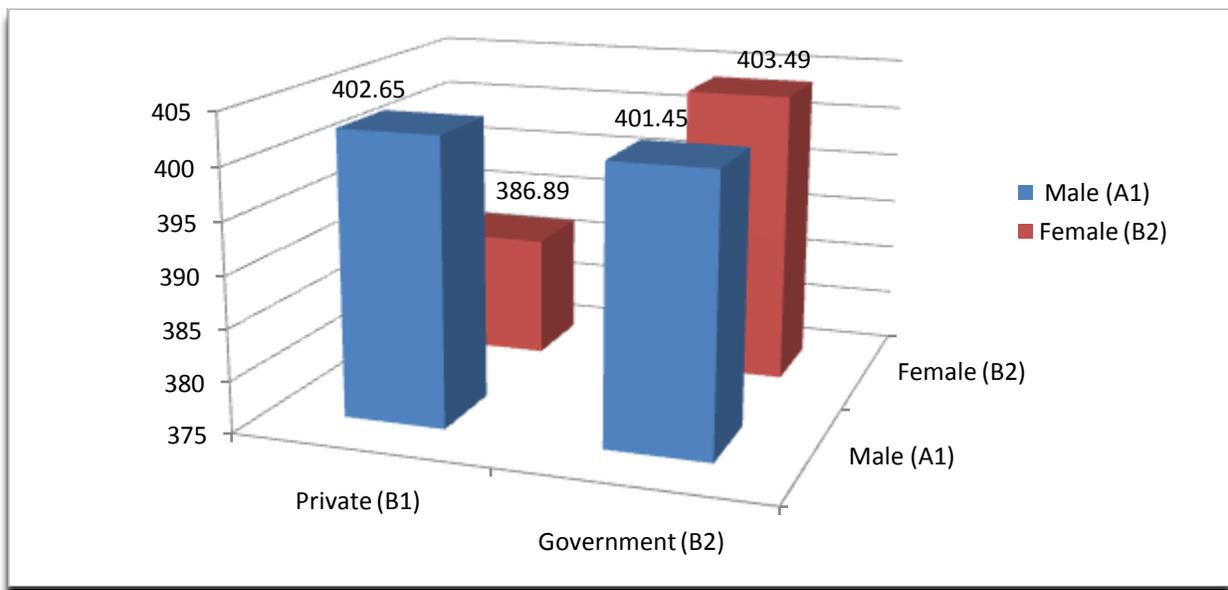
Group Comparison	Mean Difference	SD	T
Male (A1) Private > Government	1.20	5.36	0.22
Female (A2) Government > Private	16.59	4.96	3.58
Private (A1) Male > Female	15.756	5.36	2.94
Government (B2) Female > Male	2.036	4.66	0.44

It is noted from Table 3 and Figure 1 that the mean difference is significant in female group in which teachers of government school are more creative than those of private schools (403.49 vs. 386.89) as t-ratio came out to be 3.58 ( $p < 0.01$ ). However, difference in private and government secondary school teachers in the male group are not significant.



**Figure1. Interactive Effect of Gender and Type of School on Creativity in Government Schools**

Further Table 3 and Figure 2 depict that male teachers who teach in private schools are more creative than female teachers who teach in private school (402.65 vs 401.45) as the t-ratio came out to be 2.94 ( $p < 0.01$ ). While male and female secondary school teachers do not differ significantly in case of government schools.



**Figure 2. Interactive Effect of Gender and Type of School on Creativity**

The coefficient of correlation between teaching competency and general intelligence in total group is positive and significant ( $r=0.072$ ,  $p < 0.05$ ). The coefficient of correlation between teaching competency and creativity is positive and significant among secondary school teachers. The value of correlation between teaching competency and creativity is 0.21 ( $p < 0.01$ ).

**TESTING OF HYPOTHESES:**

On the basis of results of the study, as reported in the preceding section, testing of hypotheses is reported below:

- 1) From the findings of the study, it is concluded that there is no significant difference in teaching competency of male and female secondary school teachers. There is significant difference in general

intelligence of male and female secondary school teachers. Hence, the first hypothesis “There will be significant difference between male and female of secondary school teachers in teaching competency, general intelligence and creativity” is accepted in case of general intelligence however rejected in case of teacher effectiveness and creativity in which male teachers of private secondary schools are more creative than female teachers of private secondary schools and not in case of government secondary schools.

- 2) From the findings of the study it is concluded that there is significant difference in the teaching competency of government and private secondary school teachers. There is no significant difference in general intelligence of government and private secondary school teachers. Hence, the second hypothesis, “There will be significant difference between government and private secondary school teachers in teacher effectiveness, general intelligence, emotional intelligence, social intelligence and creativity” is rejected for general intelligence and accepted for teaching competency and creativity in which government school teachers are significantly high on creativity than private school teachers only in case of female group and not in case of male group of secondary school teachers.
- 3) Teaching competency is positively and significantly related with general intelligence and creativity among secondary school teachers. Hence, the third hypothesis, “There will be a significant relationship in teacher effectiveness, general intelligence and creativity among secondary school teachers” is accepted.

### **FINDINGS OF THE STUDY:**

Following are the important findings of the study:

1. There is a significant difference in the teaching competency of government and private secondary school teachers. The government school teachers are more effective than private school teachers.
2. There is no significant difference in teaching competency of male and female secondary school teachers.
3. The main effect of type of school is independent of gender groups, i.e. government school teachers being effective both in case of male and female groups of school teachers.
4. There is no significant difference in general intelligence of government and private secondary school teachers.
5. There is significant difference in general intelligence of male and female secondary school teachers, female teachers being more generally intelligent as compared to male teachers, both in case of government and private schools.
6. There is no significant difference in creativity of male and female secondary school teachers.
7. There is significant difference in creativity among government and private secondary school teachers. Government secondary school teachers are more creative than private secondary school teachers.
8. Since the interactional effect was significant in terms of gender and type of schools it was found that:
  - Male teachers of private secondary schools are more creative than female teachers of private secondary schools. However, this is not true in case of government secondary schools.
  - Government school teachers are significantly high on creativity than private school teachers only in case of female group and not in case of male group of secondary school teachers.

From the above discussion pertaining to correlational analysis with teacher effectiveness with general intelligence it may be concluded that teacher effectiveness is positively and significantly related with general intelligence.

Creativity is positively and significantly related with teaching competency among secondary school teachers.

### **DISCUSSION:**

The findings of the present study correspond to the studies conducted by Singh (1987) that there was no significant difference in male and female teachers in their teacher effectiveness. Further Krishnan and Singh (1994) concluded that main effect of the sex of the teacher on teacher effectiveness was not significant. There was no significant difference between male and female teachers in respect of dimensions of teacher

efficacy (Sridhar and Teacher Effectiveness, General Intelligence and Creativity 60 Badiel, 2007). Kagathala (2002) has also reported that sex of the teacher does not affect the teacher effectiveness while type of management has significant impact on teacher effectiveness (Roul, 2007). Kalra (2010), Riti (2010) and Sodhi (2010) concluded that there was no significant difference between male and female teachers in their teacher effectiveness.

The results of the present investigation are substantiated by the results of the studies conducted by Sharma (1977) that there was significant difference in intelligence level of government and private secondary school teachers. Singh (1987) suggested that the difference in the mean intelligence score in male and female teachers was also not significant. The present results extend previous findings by Chan (2007) which indicated that gender had a significant effect on successful intelligence that is analytical, synthetic and practical abilities.

These findings are inconsistent to the findings of present studies Reddy and Geethanath (1999); Pal (2001) that male and female teacher do not differ in their creativity. Further these findings are in contradiction with findings of present study that private institutions teacher educators are more creative than those in government institutions, whereas a study done by Walker (1964) indicated that in the class room teachers exhibited more stimulating original behaviour; students exhibited more initiating behaviour and there was more evidence of activities of creative nature.

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