Study Of Intelligence As Predictor Of Teaching Efficiency

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ABSTRACT:

Intelligence is an ability of a person to act purposefully, to adjust with his environment, to learn and to carry on abstract thinking. Whether, all intelligent teachers are always able to prove themselves as an efficient or competent teacher? This is the significant question to study the intelligence as the predictor of teaching efficiency. The relationship between teaching efficiency or effectiveness and intelligence was also the subject of study for many researchers. Several studies have been conducted to explore the relationship between intelligence and teaching efficiency. There are some studies, which reported positive and significant co-relation between the two, but there are also a number of other studies, which do not bear out evidence of such relationship. Reudiger and Strayer (1910), Knight (1922), Hart (1934), Eliassen and Martin (1940), Kaul (1972), Sathyagirirajan (1985), Kukreti (1990), Vasanthi and Anandhi (1997)and Kukreti(2004) investigated the characteristics of efficient or successful teachers had established the conclusion that intelligence was the paramount factor associated with teaching efficiency, the efficient teachers distinguished themselves as more intelligent in comparison to less efficient teachers. On the other hand, in some studies (Major 1938; Seagoe 1945; Deva 1966; Nair 1974; Vyas 1982) very weak relationship was reported by the investigators between teaching efficiency and intelligence. Keeping in view the inconsistent findings of the previous researches in this paper an attempt has been made by the researchers to find out the role of intelligence in teaching efficiency. The sample of the study consisted of 205 efficient and 195 less-efficient (total 400) teachers of 25 secondary schools of Bareilly district in UP-India. The sample was drawn through multi-stage stratified random sampling technique. For collection of data, Teacher Efficiency Scale (TES), and Group Test of Intelligence (GTI) have been used. Data were analyzed by using 't' test technique. The results of the study indicate that, the intelligence of the teachers was found significantly and positively co-related with their teaching efficiency.

Keywords:

Study, Intelligence, Teaching Efficiency

1. INTRODUCTION

Intelligence is a general mental ability of an individual. It is an ability of a person to act purposefully, to adjust with his environment, to learn and to carry on abstract thinking. Several psychologists and educationists have tried to define intelligence. Some of them revealed that intelligence is the ability of adjusting to new situation (Wells et al. 1996), it is the ability to avail of past experiences (Ebbinghavs 1959, Thorndike 1911), the ability of abstract thinking (Garrett Terman 1937) and is the conglomeration of many powers (Wechsler 1944). According to International Dictionary of Education (Page et al. 1979), intelligence represents innate potential depending entirely on neurological facilities and signifies an individual's capacity to develop intelligent responses.

"Teachers are considered as the main pillars in the educational system .They are the moderators through which the knowledge can be transferred to the students who represent the foundation of the society" (Rajalaksmi and Shirlin,2017). Whether, all intelligent teachers are always able to prove themselves as an efficient or competent teacher? This is the significant question to study the intelligence as the predictor of teaching efficiency. In this line of action, Reudiger and Strayer (1910), Knight (1992), and Hart (1934) studied the qualities of effective/efficient teachers and revealed that the effective teachers were found to have more

intelligence. Eliassen and Martin (1940) had established the conclusion that intelligence was the only paramount factor associated with teaching competency. Further, Kaul (1972) selected popular and unpopular teachers on the basis of their students liking and found that popular teachers distinguished themselves as more intelligent in comparison to non-popular ones.

Gupta (1975) in his investigation revealed that effective teachers were found more intelligent in comparison to general adult population. Sharma (1978) made an attempt to ascertain the relationship between the variable teaching efficiency and intelligence. The investigator revealed that on varying the sex the efficient male teachers were found more intelligent than efficient female teachers. Vyas (1982) reported that in case of total and female sample of prospective teachers, verbal and non-verbal intelligence were related positively and significantly to teaching success. While in case of male sample, this relationship was found true only between verbal intelligence and teaching success. Sethi and Patel (1985) in their study reported positive relationship between intelligence and teaching effectiveness. Further the studies of Sathyagirirajan (1985) and Kukreti (1990) have confirmed the finding of positive relationship between intelligence and teacher efficiency. Similarly Shah (1991) Vasanthi and Anandhi (1997) and Kukreti (2004) also reported positive relationship between intelligence and teacher effectiveness. Wahyuddin (2016) examined the relationship between teacher competence, teacher performance and emotional intelligence and reported a strong relationship of emotional intelligence with teacher performance and competency. Similarly, Kadlimatti (2020) conducted a study on 552 student teachers of College of Education, affiliated to Karnataka State Women's University Bijapur to identify the relationship between General Teaching Competency and Emotional Intelligence of women student teachers. The researcher reported that a Significant and positive relationship was observed between general teacher teaching competency and Emotional Intelligence

On the other hand, in some studies (Major 1938; Seagoe 1945; Deva 1966; Nair 1974), very weak relationship was reported by the investigators

between teaching competency and intelligence. Nair (1974) revealed that intelligence of a teachers alone can not be a predictive criterion for teaching ability. In an investigation, Vyas (1982) also reported that there was no significant relationship between non-verbal intelligence and teaching success in the case of male sample of prospective teachers. Somewhat more interesting finding was reported by Rolfe (1945) that negative correlation existed between teaching success and intelligence. Pachauri (1983) also observed that less intelligent teachers with high aggression were better in teaching. Rajalaksmi and Shirlin (2017), had made an attempt to study the relationship between Emotional intelligence and Teaching competency of B.Ed. students in Kanyakumari District. In their study the researchers also found low correlation between emotional intelligence and Teaching competency of student teachers.

Thus from the perusal of aforesaid discussion, it can be concluded that on the one hand, findings of different studies are neither conclusive nor consistent. The relationship between intelligence and teaching efficiency revealed by the researchers was uncertain and inconclusive. Some investigations show significant positive co-relationship, others show no relationship and even some show negative relationship. On the other hand, only few researches have been conducted to explore the relationship of intelligence and teacher efficiency by controlling the variables-sex and locality. Further, Hence to obtain somewhat more definite conclusions, it indicates the need for further investigation, on these two variables i.e. intelligence and teaching efficiency.

OBJECTIVES:

The following main objectives have been undertaken for the present study:

1. To find out the relationship between intelligence and teaching efficiency of male and female teachers.
2. To find out the effect of intelligence on the teaching efficiency of rural and urban secondary school teachers.
3. To compare the intelligence of efficient teachers in relation to sex (male female) and locality (rural urban).

4. To explore the coefficient of correlation between intelligence and teaching efficiency of teachers.

HYPOTHESES:

The following null hypotheses have been propounded on the basis
of the objectives listed as above:

1. Statistically, there is not significant difference between the intelligence scores of efficient and less-efficient teachers in relation to their sex (Male/Female)

2. There exists no significant effect of intelligence on the teaching efficiency of rural and urban secondary school teachers.

3. In respect of intelligence, there exists no significant variation   between male vs. female/ rural vs. urban competent teachers.

METHODOLOGY:

The present study was conducted on secondary school teacher of Bareilly district in U.P. All male, female, rural and urban teachers of secondary schools and their students (to rank the teacher- efficiency) constituted the population of the investigation.

The sample of the present study consisted of 398 secondary school teachers. Initially, by using multi-stage-stratified random sampling technique, from all secondary schools of rural and urban areas of Bareilly district 25 secondary schools were selected as sample. Then keeping in view the adequate representation of male/female and rural/urban teachers in the sample 400 teachers were selected randomly. But out of these 400 sample teachers only 398 teachers were given required complete information. Therefore finally these 398 secondary school teachers were considered as sample for the study. Out of which 240 teachers were male (119 Efficient +121 Less efficient), 158 were Female (87 Efficient +71 Less efficient), 188 teachers were from Rural Schools(90 Efficient +98 Less efficient),and 210 teachers were from Urban Schools(116 Efficient +94 Less efficient),

c) Tools

The Teacher Efficiency Scale (TES) standardized by Chauhan and Jain, and Group Test of Intelligence (GTI) developed by R. K. Tondon were used in the study. TES has 110 items distributed into three categories-A, B and C. Category 'A' refers the "presage criteria" with 83 items and category 'B' refers to the "process criteria" with 15 items and category 'C' attempts to measure the "product criteria" of teacher efficiency, has only 12 items. Group Test of Intelligence (GTI) is a spiral omnibus type of verbal group test containing 100 questions distributed over 9 sub-tests, namely -Number series, Mathematical instruction, Following instruction, Vocabulary similar, Vocabulary opposites, Classifications, Best answers, Analogies and reasoning. The reliability and validity of both, TES and GTI were found to be of high order by the authors.

PROCEDURE:

Initially, 'C' part of the TES was given to the sample teachers, and then 'A' and "B' parts of the same scale were distributed among the selected students (four students for each teacher). They were requested to answer all questions. After the interval of 15 days, GTI was given to the teachers for collecting data related to the intelligence of sample teachers (interval was kept to eliminate the memory effects).

DATA ANALYSIS AND DISCUSSION OF THE RESULTS

At the initial stage with the help of median point, the 398 sample teachers were categorized in to efficient teachers and less-efficient teachers. On TES, the teachers who obtained scores above median point, considered as efficient and those who scored below median point were considered as less efficient teachers (Median point was 285.5). Both the groups of teachers (efficient 206 and less-efficient 192), further categorized on the basis of sex (male/female) and locality (rural / urban). The results of the study are shown in the following tables:

Table-1

Mean, SD & 't' Ratios of Intelligence Scores of Efficient and Less-efficient Teachers in Relation to Sex

Sex	Efficient Teacher			Less-Efficient Teachers			df.	't' Ratio
	N	Mean	SD	N	Mean	SD		
Male	119	121.55	29.52	121	96.50	23.68	238	7.24**
Female	87	137.65	38.96	71	99.55	22.76	156	7.65**

Significant at .01 level of confidence.
Data displayed in table-1, indicate that efficient male teachers had scored higher intelligence scores than less-efficient male teachers (t=7.24, p=<.01). In the same direction, the efficient female teachers were also found more intelligent than their counterpart- female less-efficient teachers.

Table-2

Mean, S.D. and 't' Ratio of Intelligence Scores of Efficient and Less-efficient Teachers in Relation to Locality

Sex	Efficient Teacher			Less-Efficient Teachers			df.	't' Ratio
	N	Mean	SD	N	Mean	SD		
Male	90	122.66	36.38	98	93.87	23.43	186	6.38**
Female	116	132.76	34.41	94	101.54	30.52	208	6.96**

Significant at .01 level of confidence.
From the perusal of table-2, it is clear that in respect of both groups of teachers (Rural and Urban), there was a positive and significant relationship between the variable-teaching efficiency and intelligence. efficient rural and urban teachers had scored significantly (t=6.38 and 6.96 respectively, p=<.01) higher mean values on intelligence.

Table-3

Mean, S.D. and' t' Ratios of Intelligence Scores of Efficient Teachers in Relation to Sex & Locality.

Sex/ Locality	N	Intelligence Score		Obtained 't' Ratio
		Mean	SD	
Male (M)	119	121.55	29.52	**M vs. F**= 3.23** (df=204)
Female (F)	87	137.65	38.96	
Rural (R)	90	122.66	36.38	**R vs. U**=2.02,* (df=204)
Urban (U)	116	132.76	34.41	

**Significant at .01 level of confidence,*

Significant at .05 level of confidence

It is evident from table-03, that in respect of sex, efficient female teachers had gained significantly higher intelligence scores than efficient male teachers. From the same table it may further be observed that in comparison of rural efficient teachers the urban efficient teachers have proved themselves as more intelligent teachers (t=, 2.02 significant at.05 level of significance)

Table- 4
Mean and S. D. Intelligence Quotient scores of Efficient and Less -Efficient Teachers

Variables	Efficient Teachers (N=206)		Less Efficient Teachers(N=192)		t- value (df=396)
	Mean	S.D.	Mean	S.D.	
Intelligence Quotient	128.31	44.37	97.62	30.02	7.95**

** Significant at 0.01 level of confidence

From the analysis of the data displayed in table-4, it can be concluded that intelligence of the teachers was found positively associated with their teaching competence. Because in comparison to less efficient teachers the efficient teachers had scored higher mean value on intelligence (t =, p = .01).

Table-5
Co-efficient of Correlation between dependent variable (teaching efficiency) and independent variable (intelligence)

Category of teachers	N	co-efficient of Correlations
Rural teachers	188	.61
Urban teachers	210	.73
Male teachers	240	.64
Female teachers	158	.71
Total teachers	398	.68

As the coefficient of correlation is an index of the direction and magnitude of the relationship between two variables. An examination of table-5, clearly indicates that the variable intelligence is positively and highly significantly correlated with the variable teaching efficiency.

MAJOR FINDINGS:

In brief the study concludes that:

1. Efficient male and female teachers were found to be significantly more intelligent than less efficient male and female teachers.

2. In respect of locality, Efficient rural and urban teachers were found to be higher on intelligence than their counterparts less efficient teachers.

3. Efficient female and urban teachers were found to be more intelligent than less efficient male and rural teachers respectively.

CONCLUSION

In respect to the co-relationship between intelligence and teacher efficiency of secondary school teachers, uniform and consistent findings were obtained in all groups of comparison. Significantly higher intelligence quotient (I.Q) was yielded by efficient teachers as compared to less efficient teachers when compared either on the basis of sex or locality. When the total efficient and less efficient teachers were compared (without considering the criteria variables) clearer variation was identified between the teachers of these two groups. The former group was found more intelligent than the latter group. Thus, it may be concluded that higher will be intelligence more would be the chances of being a efficient teacher. Thus it May be concluded that higher will be intelligence more would be the chances of being a efficient teachers. A Similar relationship was also reported by Eliassenetal, (1940), Jones (1956), Kaul (1972), Sharms (1978), Shah (1991), and Vasavthi and Anandhi (1997) between intelligence and teacher competency. It it natural because a more intelligent teachers would be efficient in abstract thinking, he must be interested in new innovations and thus keep the up-date knowledge of the subject matter. Therefore he teaches his class more confidently and transfers the latest information to the students. Thus an intelligent teacher will be able to create more interest and enthusiasm among his students. An intelligent teacher may face the class or may interact with the students more confidently than the teacher of an average or low intelligence quotient. These all characteristics enhance the ability of teaching and that's why intelligent teachers may be found more efficient in classroom teaching rather than those teachers who possess an average intelligence.

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