

IMPACT OF TEACHERS' EDUCATION ON ACADEMIC ACHIEVEMENT OF STUDENTS AT PRIMARY LEVEL

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ABSTRACT: *The main purpose of this paper is to measure impact of teacher's quality of education on students' learning. Teacher education in Pakistan has been criticized by the concerned constituencies for excessive quantitative expansion and poor quality. In this study, researcher employs a survey research design that involves a quantitative description of teacher quality status and the investigation of the relationship between teachers' quality of education and students' achievement. The selected sample from the population was 3 private schools. The data was collected at the primary level from 5th class through questionnaire. The data was analyzed by using ANOVA Test and after that also used L.S.D. And the results show that there is a significant difference between the teachers' quality of and students' achievement. It was concluded that teachers who have content knowledge and also have professional experience shows good performance than low qualified teachers.*

KEYWORDS: *Academic achievement, Content knowledge, Teaching experience, Professional certification, overall academic ability, Teacher quality.*

1.0 INTRODUCTION

In Pakistan, the quality of teacher education has been questioned and criticized from time to time by the concerned constituencies. In order to meet the growing demands of teachers at various levels, the teacher education system has gone through significant quantitative expansion, yet the quality of teachers' preparation has been overlooked and compromised. Commenting on the current state of teacher education in Pakistan, the National Education Policy: 1998-2010 observes: "The qualitative dimension of teacher education program has received marginal attention resulting in mass production of teachers with shallow understanding of both the content and methodology of education" (Government of Pakistan, 1998, p.47). A recent report published by UNESCO about teacher education in Pakistan points out that "absence of quality has to be tackled urgently in a context where teacher-learner interactions are mediated by a supportive management, as well as by an enabling policy environment" (UNESCO, 2008, p.12). It is generally acknowledged that promoting teacher quality is a key element in improving primary and secondary education. Indeed, one of the main goals of recent presidential administrations has been to have a "highly qualified teacher" in every classroom. While recent research has documented the central role of teacher quality in promoting student achievement, there is no consensus on what factors enhance, or even signal, teacher quality. (Journal of public economics, 2011, p. 798-812). This paper is an attempt to assess with teacher quality in sense of teacher qualification and their impact on student's academic achievement.

Literature suggests that quality of teachers depends on educational qualifications of teachers and quality of pre-service and in-service teacher education (Aga Khan Foundation, 1998; Jangira & Ahuja, 1992; Sharma, 1993). Teacher education therefore assumes great importance in achieving the goal of quality education.

Research related with different key points with teacher quality related.

- a. Teacher formal education
- b. Teacher Education in the Subject Matter of Teaching (in-field preparation)
- c. Teacher Education in Pedagogical Studies

d. Duration of Pre-service Education

e. Years of Experience

a. Teacher formal education: Findings related to teachers' academic degrees (Bachelor's, Master's, doctorate, and other) are questionable. Some studies show positive effects of advanced degrees (Betts, Zau, & Rice, 2003; Ferguson & Ladd, 1996; Goldhaber & Brewer, 1997, 2000 Rowan, Chiang, & Miller, 1997); others show negative effects (Ehrenberg & Brewer, 1994; Kiesling, 1984). Some researchers maintain that the requirement for teachers to have a second degree raises the cost, financially as well as in time, of teacher education, which may prevent quality candidates from choosing this profession (Murnane, 1996).

b. Teacher Education in the Subject Matter of Teaching (in-field preparation): This characteristic is related to the subject-matter knowledge teachers acquire during their formal studies and pre-service teacher education courses. The evidence from different studies is conflicting. Several studies show a positive relationship between teachers' preparation in the subject matter they later teach and student achievement (Darling-Hammond, 1999, 2000b; Goldhaber & Brewer, 2000; Guyton & Farokhi, 1987), while others have less clear results. Monk and King (1994) found both positive and negative effects of teachers' in-field preparation on student achievement.

c. Teacher Education in Pedagogical Studies: The literature shows a somewhat stronger, and more consistently positive, influence of education and pedagogical coursework on teacher effectiveness (e.g., Ashton & Crocker, 1987; Everston, Hawley, & Zlotnik, 1985; Ferguson & Womack, 1993, Guyton & Farokhi, 1987). Some of these studies compare the effect on student achievement of courses in pedagogical subject matter with the effect of courses in the subject matter itself, and present evidence in favor of the former. An example is a study conducted by Monk (1994) related to mathematics achievement.

d. Duration of Pre-service Education: Despite evidence that five-year programs result in a higher retention rate and career satisfaction of their graduates than do four-year programs (Andrew, 1990), there is no evidence that graduates of the longer programs become more effective teachers.

e.Years of Experience :Studies on the effect of teacher experience on student learning have found a positive relationship between teachers’ effectiveness and their years of experience, but the relationship observed is not always a significant or an entirely linear one (Klitgaard & Hall, 1974; Murnane & Phillips, 1981). The evidence currently available suggests that while inexperienced teachers are less effective than more senior teachers, the benefits of experience level off after a few years (Rivkin, Hanushek, & Kain, 2000).

1.1 Objectives of the Study

This study was designed to

1. Identify the teachers’ quality of education.
2. Measure the students’ learning.
3. Find out the impact of teachers’ quality of education on students’ learning.

1.2 Hypothesis

H₀ = All three means are unequal $\mu_1 \neq \mu_2 \neq \mu_3$

There is no significant difference between teachers’ qualification and students’ academic achievement.

H₁ = All three means are equal $\mu_1 = \mu_2 = \mu_3$

There is a significant difference between teachers’ qualification and students’ academic achievement. **1.3**

Delimitations of study

2013-2014 session

Private Schools of Rawalpindi district.

Students of 5th Grade

Subject English

2.0 METHODOLOGY

In this study, researcher employs a survey research design that involves a quantitative description of teacher quality status and the investigation of the relationship between teachers’ quality and students’ achievement. The purpose of survey research is to generalize the study results from sample to a population.

In this chapter, researcher discusses the methodological issues that include (a) data source (b) sample selection (c) instrumentation (d) data collection (e) data analysis.

2.1 Population

The population of the study was comprised all students of private schools from district Rawalpindi.

2.2 Sample

The selected sample from the population was three private schools. From each school 18 students were randomly selected that constituted total sample of 54 students .The data was collected at the primary level from 5th Grade.

2.3 Instrument

The questionnaire was used for data collection. This questionnaire have 15 MCQs items which asses the teacher performance. This questionnaire only measured the performance of English teachers.

3.0 DATA COLLECTION

The data was collected through random sampling technique. All questionnaires were distributed randomly between students and provide a reasonable time to solve it.

4.0 DATA ANALYSIS

After the data collection researcher analysed the data. Researchers checked out all MCQs items from the key and scored all students. On the basis of the samples’ scoring

researcher analysed the qualification of different teachers and their impact on students’ achievement.

The detail analysis is given below:

Given the data below that test the hypothesis that the means of three populations are equal or not.

Table .1 Scores of all students of three schools

N	Sample 1	Sample 2	Sample 3
1	7	6	11
2	13	9	7
3	7	9	7
4	9	9	7
5	15	9	11
6	15	10	10
7	12	7	10
8	14	8	6
9	11	7	8
10	14	8	8
11	13	11	10
12	12	10	8
13	10	10	10
14	11	4	10
15	14	7	7
16	12	11	9
17	10	8	8
18	11	9	3

(Scores of respondents of all schools 1,2,3) Solution:

1.Null hypothesis:

H₀= all three means are equal $\mu_1 = \mu_2 = \mu_3$

2.Alternate hypothesis:

H₁= all three means are unequal $\mu \neq \mu_2 \neq \mu_3$

2) The significant level is set as $\alpha=0.05$

3) The test statistics was be used ANOVA test:

$$F = \frac{S^2_b}{S^2_w}$$

4) The computations are carried out as below

N	X ₁	X ² ₁	X ₂	X ² _{II}	X ₃	X ² _{III}	ΣX _j ²
1	7	49	6	36	11	121	206
2	13	169	9	81	7	49	299
3	7	49	9	81	7	49	179
4	9	81	9	81	7	49	211
5	15	225	9	81	11	121	427
6	15	225	10	100	10	100	425
7	12	144	7	49	10	100	293
8	14	196	8	64	6	36	296
9	11	121	7	49	8	64	234
10	14	196	8	64	8	64	324
11	13	169	11	121	10	100	390
12	12	144	10	100	8	64	308
13	10	100	10	100	10	100	300
14	11	121	4	16	10	100	237
15	14	196	7	49	7	49	294
16	12	144	11	121	9	81	346
17	10	100	8	64	8	64	228

18	11	121	9	81	3	9	211
T.j	210		152		150		512
T.j²	44100		23104		22500		89704
ΣXj²	2550		1338		1320		5208

Correction factor = $\frac{T..^2}{N}$

C.F = $\frac{(512)^2}{54}$

C.F = 4854.5

Total S.S = $\sum x_j^2 - C.F$
 = 5208 - 4854
 = **353.5**

Between S.S = $\frac{T.j^2}{r} - C.f$
 = $\frac{89704}{18} - 4854.5$

Between S.S = **129.0**

Within SS = total – between
 = 353.5 – 129.0
 = **224.5**

ANOVA TABLE

Source of variation	d.f	Sum of squares	Means	Computed (F)
Between sample	2	129.0	64.5	64.5/4.40
Within sample	51	224.5	4.40	=14.6
Total	53	353.5		

$F_C = 14.6$

$F_{t(0.05)(2,51)} = 3.15$

$F_c \geq F_t$ = rejected hypothesis

H_0 rejected, H_1 accepted

Above hypothesis is rejected and F_C is greater than F_t then researcher used least significant difference to know which population mean has minimum significant difference from other population mean by using L.S.D test.

L.S.D = $t_{(a/2, vi)} \sqrt{2MSE/r}$

V_1	V_2	V_3
11.66	8.44	8.33

= $t_{(0.05/2, 51)} \sqrt{2(4.40)/18}$

= $t_{(0.025, 51)} \sqrt{0.48}$

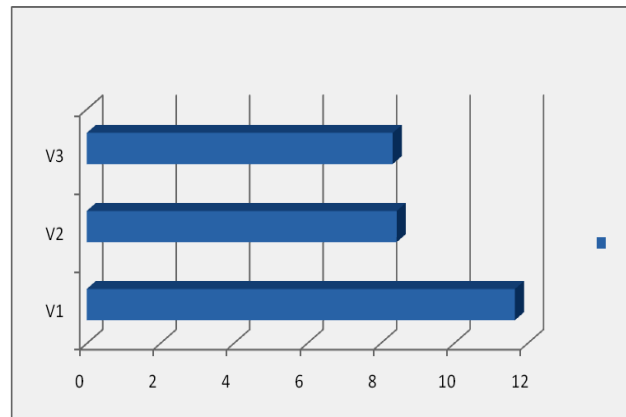
= $t_{(2.000)} (0.69)$

V_1 , V_2 , V_3
 8.33 , 8.44 , 11.66

(Arrange ascending order) V_3 , V_2 , V_1
8.33 , 8.44 , 11.66

$(V_3 - V_1 = 3.33)$

Bar chart below shows difference in mean of samples (V_1, V_2, V_3)



There is a highly significant difference between (V_3, V_1) Highly mean = V_1

5.0 DISCUSSION.

Present results have highlighted that teachers' qualification and their professional experience have greater impact on the achievement of students. The purpose of the study was to identify the impact of quality of teacher education and the academic achievement of students. The research hypothesis that 'there is no significant difference between teachers' qualification and students' achievement' was rejected. Findings shows a significant difference between two variables. Likewise, several studies show a positive relationship between teachers' preparation in the subject matter they later teach and student achievement (Darling-Hammond, 1999, 2000b; Goldhaber & Brewer, (2000); Guyton & Farokhi, 1987). Research also predicts that teacher should also have professional qualification (B.Ed. and M.Ed) so they can exhibit excellent performance. Similarly, Aga Khan Foundation (1998), Jangira & Ahuja (1992) and Sharma (1993) have supported these findings that are in favour to have professional qualification. A well qualified teacher knows how to deliver the content? A low qualified teacher or a teacher have normal qualification cannot show good performance. The most important factor is professional qualification provide competency on teaching. So there is a direct relationship between teachers' qualification with their professional experience on students' achievement.

6.0 CONCLUSION.

It is concluded that there is a significant difference between the achievement of highly qualified teachers and less qualified teachers. This study of teachers' quality of education provides important information regarding highly qualified teachers and their professional qualification. For enhancement of teachers' quality of education and to improve students' achievement, the current study suggests the following recommendations:

1. First, to continuously track the development of highly qualified teachers and to provide information to the public and policy makers about teacher quality and the distribution of teacher quality across different types of schools, a profile of highly qualified teachers or teacher professional education need to be developed.
2. Second, it is recommended that future studies on teacher quality should also look at teachers' actual classroom teaching practice to see how teachers preparation and qualification affect their teaching practice.
3. Third, it is recommended that future studies on teacher quality connect teachers' preparation and qualification with students' learning in classroom.
4. Fourthly, our system should focus on professional education of teachers and also introduce refreshing courses for the development of teachers.
5. Fifthly, Professional education should be compulsory for teachers in low income areas for their appointment so they can also improve their achievement rate.
6. Government should adopt proper monitoring policy for teacher's appointment in private sector regarding teacher education, their professional experience and students achievement.
7. Teacher content knowledge is also important. Teacher must know about the subject which they teach in the class.
8. The schools that are situated in low income areas must improve their salaries so that well qualified teachers also want to work here.
9. All public and private schools should have good accountability system for the purpose of high achievement of students.
10. It is recommended that teachers should teach according to the mental ability of the students so they can learn more better way.

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