Academic Achievement of Students Associated With Professional Education of Teacher

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Quality of school education largely depends on the quality of teacher's education. Teacher education in Pakistan at school level has been mostly criticized for excessive quantitative expansion and poor quality. This research study was designed to assess the effect of the quality of teacher education on the academic achievement of students at school level. In this research teacher education and student achievement are the study variables. The questionnaire was designed for data collection with 50 multiple choice questions related to the problems of subjects Mathematics and English of 8th level of school education. Two-stage sampling was used to select the sample. At first stage 10 primary school randomly located in urban area of district Rawalpindi, Pakistan was selected. At second stage three hundred students selected at random who participated in this study. Post-stratification sampling technique was used here to make three strata of the sample according to three levels of teacher's education. Hundred minutes were to the students to answer the 50 multiple choice questions related to the Mathematics and English of 5th level of school education. The data was compiled and analyzed through analysis of variance and Tukey's multiple comparison tests. The great impotence of professional qualification was concluded in this study for the high academic achievement of the student.

Keywords: *analysis of variance, post-stratification sampling, Tukey's multiple comparison tests, professional education*

Introduction

Professional education usually refers to education for professional jobs, which could include law, medicine, teaching, etc. Such jobs are often referred to as "white collar" jobs, and such education usually takes place to adopt a specific profession. B. Ed. /M. Ed. stands for Bachelor of Education/Master of Education. This type of program or degree is getting very popular among those people who want to adopt teaching as a profession. In other words, we can say that B. Ed. is considered to be the most important requirement for becoming the teacher. This particular degree is mostly held by teachers to get started with their career in teaching. This degree is specially and exclusively designed for all the teachers so that they may start their teaching career in an efficient and an effective way. A candidate having completed this degree can easily and conveniently become a teacher. Academic achievement is the outcome of education the extent to which a student, teacher or institution has achieved their educational goals. It is generally acknowledged that promoting teacher quality is a key element in improving primary and secondary education. Teachers'

professional knowledge understanding influences the disposition of teaching skills in the actual skills. It is, therefore, recommended that during the teacher training program focused should be given to the understanding of professional knowledge (Khan, 2015). 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. This has fueled debate over how best to prepare new teachers and how to improve the quality of the existing teacher labour force. To better understand the determinants of teacher quality, we consider the relationship between teacher productivity and teacher training, including formal pre-service university education, in-service professional development, and informal training acquired through on-the-job experience. (Harris, 2011). By "successful teaching" we mean that the learner actually acquires some reasonable and acceptable level of proficiency from what he/she observed in a classroom (Berliner, 2005). In many countries, teacher qualifications that are considered to be related to student learning have become desirable targets of teacher education reform. Some of these reforms call for the professionalization of teacher education by making it longer, upgrading it to graduate programs, and regulating it through mechanisms of licensure, certification, and promotion aligned with standards (Darling-Hammond, Chung, & Frelow, 2002). The impact of these policies on student learning was explored in several meta-analytic studies mainly based on U.S. data, but also on the basis of other countries' databases (Greenwald, Hedges & Little, 2010) as well as on more specific policy-targeted or more local studies (Dee, 2004 & Berry, 2001). It is difficult to define the quality of education precisely mainly because of complex nature of the teaching-learning process and a large number of stakeholders involved in schooling (Ingersoll, 1999). Various authors/researchers have identified different determinants of education quality, quality of education define as a set of elements containing input, process and output of education system (Slavit, 2010). The indicators of education quality identified by (Horn & Little, 2010) include learners, teachers, content, teaching-learning processes, learning environments, and outcomes. According to Darling-Hammond (2000), teachers with the most preparation are the most confident and successful.

Objectives of the Study

This study was designed to assess the effect of teacher's professional education and academic achievement of students at the 8th level of school education.

Hypothesis to be Tested

There is no significant difference in academic achievement at school level of students taught by teachers having simple graduate/post graduate degree and teachers having a professional degree, that is, B. Ed./M. Ed. along with graduate/post graduate degree.

Research Methodology

A series of the meeting was arranged with different groups of teachers of Mathematics and English of 8th level of education of secondary school to discuss the problem under study so that a most suitable questionnaire may be designed to evaluate

the learning of students by study groups of teachers. The course outlines and the books of Mathematics and English were also reviewed. The questionnaire was designed for data collection with 50 multiple choice questions related to the problems of subjects Mathematics and English of 8th level of school education. Two-stage sampling was used to select the sample. At first stage 10 primary school randomly located in urban area of Rawalpindi were selected. At second stage thirty students selected at random from each selected school. Post-stratification sampling technique (Holt, 1979) was used here to make three strata of the sample according to three levels of teacher's education, that is, first level M. A., M. Sc./B. Ed., second level B. A., B. Sc./B. Ed. and third level simple B. A., B. Sc. In this way these three hundred selected students were bounded to participate in this study. Hundred minutes were given to the students to answer the 50 multiple choice questions related to the Mathematics and English of 8th level of school education. After scoring the question papers data was collected/compiled and analyzed through statistical techniques. Significance was tested through Analysis of Variance technique (Box, 1954). Tukey's Multiple Comparison tests (Jaccard, 1984) was used to know the groups having a significant difference. The normality of the data was checked through One-Sample Kolmogorov-Smirnov Test (Stephens, 1974).

Target Population There are 632 middle/secondary schools located in the urban area of Rawalpindi.

Sampled Population Ten primary schools randomly located in urban area of Rawalpindi.

Sample Three hundred students were selected at random from each selected school (Lenth, 2001).

Data Analysis

Researchers checked out all objective papers and give scoring to all students. On the basis of the samples scoring researcher were analyses the impact of teacher qualification on student achievement.

Results and Discussion

The data obtained through field survey are summarized in Table No. 1.

Table 1. *Descriptive Statistics*

	n	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
M.A./M. Sc. with B. Ed.	63	36.48	9.350	1.178	34.12	38.83	19	50
B. A./ B. Sc. with B. Ed.	78	29.08	7.632	.864	27.36	30.80	10	48
B. A./ B. Sc.	159	23.19	8.733	.693	21.82	24.56	8	48
Total	300	27.51	10.047	.580	26.37	28.65	8	50

From Table 2 one-Sample Kolmogorov-Smirnov test shows that the data follows a normal distribution according to the parametric statistical method were used for further analysis of the data.

Table 3: *Analysis of Variance*

Marks	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8225.378	2	4112.689	55.634	.000
Within Groups	21955.592	297	73.925		
Total	30180.970	299			

Table 3 shows that there is a significant difference between defined groups of teachers.

Table 4. *Multiple Comparisons*

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
M.A./M. Sc. with B. Ed.	B. A./ B. Sc. with B. Ed.	7.399*	1.456	.000	3.97	10.83
	B. A./ B. Sc.	13.288*	1.280	.000	10.27	16.30
B. A./ B. Sc. with B. Ed.	M.A./M. Sc. with B. Ed.	-7.399*	1.456	.000	-10.83	-3.97
	B. A./ B. Sc.	5.888*	1.189	.000	3.09	8.69
B. A./ B. Sc.	M.A./M. Sc. with B. Ed.	-13.288*	1.280	.000	-16.30	-10.27
	B. A./ B. Sc. with B. Ed.	-5.888*	1.189	.000	-8.69	-3.09

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

Table 4 shows that there is a significant difference in academic achievement of students who taught by teachers belongs to following groups with respect to their qualification:

Table 2. One-Sample Kolmogorov-Smirnov Test

		Marks
N		300
Normal Parameters	Mean	27.51
	Std. Deviation	10.047
Kolmogorov-Smirnov Z		1.824
Asymp. Sig. (2-tailed)		0.003

I)   M.A./M. Sc. with B. Ed. and B. A./ B. Sc. with B. Ed

II) M.A./M. Sc. with B. Ed. and only B. A./ B. Sc.

III) B. A./ B. Sc. with B. Ed. and only B. A./ B. Sc.

Mean Achievement Score
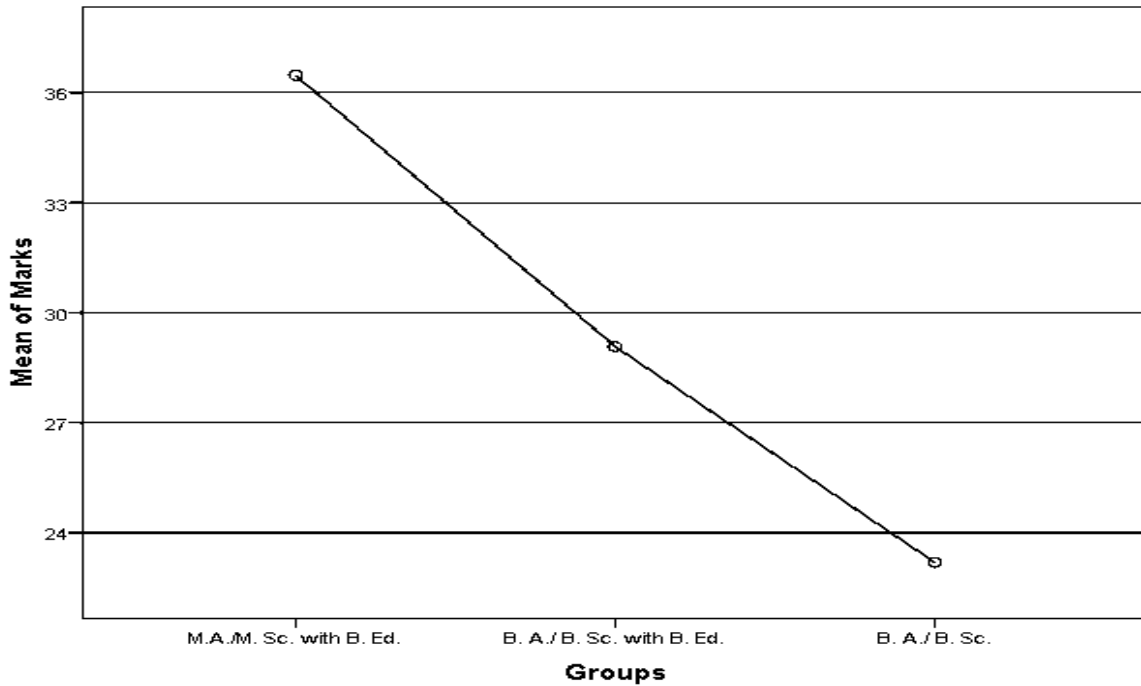
Conclusions

Following conclusions are drawn from above analysis:

1. There is a significant difference between the academic achievement of students who are being taught by teachers having a high qualification with professional education and low qualified teachers with professional education.

2. There is a significant difference between the academic achievement of students who are being taught by teachers having a high qualification with professional education teachers and low qualified teachers without professional education.

3. There is a significant difference between the academic achievement of students who are being taught by teachers having a low qualification with professional education teachers and low qualified teachers without professional education.

In short, it is concluded that the professional education is most important to enhance the competency of teacher for the better academic achievement of students.

Recommendations

The government should adopt proper monitoring policy for teacher's appointment in public/private sector regarding teacher education and their professional qualification.

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