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Investigation of prospective teachers' perceptions about research training environment at university level in Pakistan

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ABSTRACT

The purpose of the study was to investigate the perceptions of prospective teachers about their research training environment. The prospective teachers enrolled in B.Ed. four years program studying in public sector universities of the Lahore city were the population of the study. The data were collected from 200 students using census sampling technique. The researchers collected the data by personal visits to the selected universities. The researchers adapted a questionnaire measuring research training environment and it was originally developed by Gelso, Mallinckrodt, & Judge (1996) developed on 5- point likert scale. Data were analyzed by using average and independent sample t-test and ANOVA. No significant difference was found between male and female Prospective teachers' perceptions about research training environment, but a significant difference was found in the PTs perception about research training environment with different ages and area of specialization. It was recommended that the faculty members should give the prospective teachers', knowledge about various type and methodologies of research studies to overcome their research related difficulties. Prospective teachers should be provided opportunity to involve in research before actually undertaking a research project for writing research thesis. Further in order to reduce the anxiety of research in prospective teachers, to overcome research difficulty, and to develop better research training environment; research seminars, conferences and workshops should be arranged. The prospective teachers should also be taught relevant statistics that they have to use in their research rather than teaching statistics as a whole subject.

Key Words: Public sector Universities, Research Training Environment, Pakistan, Teachers, Perceptions

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INTRODUCTION

Teaching is fundamental of all the factors which directly impact on the quality of education. Traditionally, teaching has been characterized by the acts that involve various activities that help younger people to learn (Szucs, 2009). It involves planning and delivering lessons, marking class and homework, and examining students' progress. Teachers, traditionally, were not expected to undertake research in order to explore the problems that they would face in the process of teaching and learning. There has been a shift in the role of teachers (Scheirer, 2000) and now they are expected to explore the solution, by themselves, to their immediate classroom problems through action research. Teachers are expected to be teacher researchers (Ainley, 1999; Hoong, Chick & Moss, 2007). Research gives teachers a vision about the practical implications of different teaching approaches, their validity, rationale for decision making, targeting problems and brining improvements, etc. (Field, 2011).

Keeping in view the significance of research for teachers, the initial teacher training program has been added courses on research methods. Prospective Teachers (PTs) are also required to culminate their program with writing a research project on a topic of some educational importance that involves them in going through an extensive literature and practically applying their learned research skills. Laghari (2010), stated that "focus on research is one of the surest ways to improve teachers' education and standards of instruction…… Such endeavors of research in education will make teaching more effective and herald a beginning for education research".

A variety of teacher training programs like Primary Teacher Certificate (PTC), Certificate of Teaching (CT), Diplomas, B.Ed. and M.Ed. courses already exist in Pakistan. Pre-step report (*Rationalization of Pre-Service Teacher Education in Pakistan*, 2010) declares that these programs have "outdated pedagogy, inadequate teaching of subject matter, and lack of instruction in effective communication, critical thinking and creative teaching skills". It was suggested that a new four years Bachelor of Education Honors (B.Ed. [Hons.]) program should be taken as criteria for entering in teaching profession. It is claimed that PTs enrolled in four-year B.Ed. (Hons.) programs will learn new approaches to effective teaching and learning.

In the context of research, the majority of the PTs in the B.Ed. (Hons.) would be new to carrying out a research project. These novice PT researchers come with vague concepts of research related activities. Moreover, they are found to be weak in research methodologies and data analysis. They need access to a wide range of information to function well. They are provided relevant research training environment (RTE) in which students could investigate the feasibility of various options with interest and understanding of their research accomplishments. Literature repeatedly shows that

research training environment has a strong influence on their learning, and attitudes towards research (Clark, 1983; Love, Bahner, Jones, Nilsson, 2008; Faghihi, 1998) also it is considered imperative to be a successful academician (Zimpher, Cox, West, Bubenzer, &Brooks, 1997, FollePTe & Klesges, 1988; McGrail, Rickard & Jones, 2006; Vaccaro,2009). There is much need to investigate the research training environment due to its significance for university students and prospective teachers.

Literature shows different effects and results of various demographic variables. Research on gender has been the focus of attention of many researchers (Wolfe, 1999, 2000, Sullivan, 2001). Even these effects are found different in the context of different countries. Similarly there are other demographic variables like type of program, university and area of specialization in intermediate, which are being explored by the researchers (Butt & Shams, 2013) and are explored in the present study as well. There is need to investigate the perceptions of PTs about research training environment at Public sector universities in Lahore City. The specific objectives of this study were to:

- Investigate PTs perceptions about research training environment.
- Compare PTs perceptions about research training environment by gender, age, type of program, and area of specialization.

Null Hypotheses

H_{01}: There is no difference in male and female university PTs perceptions about RTE.

H_{02}: There is no difference in regular/morning and self-support/evening university PTs perceptions about RTE.

H_{03}: There is no difference in PTs perceptions about RTE with respect to age.

H_{04}: There is no difference in PTs perceptions about RTE with respect to area of specialization at intermediate level.

METHODOLOGY

The design of this research was descriptive. Moreover, survey method was applied to investigate the perception of PTs about research training environment. All the male and female PTs enrolled in B.Ed. (Hons.) 4 years degree program, in the public sector universities of the Lahore, were the population of the study. The sampling was done at two stages. At first stage two public sector universities were randomly selected. At second stage PTs (both, male and female) of B.Ed.

(Hons.) teacher training program were selected by using census sampling. The researchers selected all, most senior badge morning and evening/self-support PTs of B.Ed. (Hons.). There was different proportion of students in both universities. Among those 177 were the respondents of the current study who participated in the research by giving useable data to the researcher. The male and female PTs were in the ratio of 30:147. The females were the 83% of the sample because most of the PTs in B.Ed. (Hons.) program were females.

A questionnaire i.e. on Research Training Environment (RTE) was used as instrument of the study. The first part of the questionnaire inquired the respondents about some demographic information, i.e. gender, age, type of program and area of specialization in intermediate. The Research Training Environment Scale – Revised (RTES-R; Gelso, Mallinckrodt, & Judge, 1996) developed on 5- point likert scale (1, disagree to 5, agree) was used as research instrument for exploring the PTs perceptions about research training environment. It is consisted of nine subscales and 54 items. These factors are Faculty Modeling (6 items), Positive Reinforcement (5 items), Early Involvement in Research (6 items), Teaching Relevant Statistics (6 items), Looking Inward for Ideas (6 items), Science as a Social Experience (6 items), Experiments are Flawed (6 items), Focus on Varied Investigative Styles (6 items), Wedding Science and Practice (6 items). The reported internal consistency value of Pearson's coefficient alpha was from .83 to .88 (Gelso, 1993; Faghihi, 1998). The test-retest reliability for each subscale was found to be ranging from .74 to .94 (Gelso, Mallinckrodt, & Judge, 1996). Moreover, the evidence of construct validity of the instrument was also found in the findings of Hollingsworth (2000). Therefore, the instrument was found to be valid and reliable tool when used in several different occasions (Gelso, 1993; Gelso, Mallinckrodt, & Judge, 1996; Khan & Scott, 1997; Faghihi, 1998; Hollingsworth, 2000; Cozby, 2001; Kahn, 2001, Vaccaro, 2009). The researcher adapted the RTE scale and modified the items according to the context and population of the current study. Some of the items were excluded and the instrument was validated by expert opinion. In the next stage the instrument was pilot tested on a sample of 15 PTs. In the light of the results of the pilot testing the researcher finalized the instrument. Final instrument comprised of 29 items.

RESULTS AND FINDINGS

This section of the article presents the results and findings of the current study. This is an important study as it attempts to investigate the perceptions of prospective teachers about research training environment at university level in Pakistan. The data was collected by adapting the research instruments and the analysis comprised descriptive which included averages and inferential statistics which included independent sample t test and ANOVA. The results have been presented in the tables below:

Table 1: *Descriptive of the Factors of RTE*

Factors of RTE	N	Mean	S.D
Faculty Modeling	177	3.56	.785
Positive Reinforcement	177	2.64	.699
Early Involvement in Research	177	3.18	.626
Teaching Relevant Statistics	177	3.36	.940
Looking Inward for Ideas	177	3.01	.924
Science as a Social Experience	177	3.54	.873
All Experiments are Flawed	177	2.88	.744
Focus on Varied Investigative Styles	177	3.31	.789
Wedding Science and Practice	177	3.57	.869
Total RTE	177	3.19	.471

Table 1 shows the mean and standard deviation of the factors and total score of RTE. For the factors Faculty Modeling, Science as a Social Experience and Wedding Science and Practice the respondents have shown positive perceptions about RTE with M= 3.56, S.D=.785; M=3.54, S.D=.873; M=3.57, S.D=.869, respectively. For the factors Positive Reinforcement (M=2.64,S.D=.699), Early Involvement in Research (M=3.18, S.D=.626) , Teaching Relevant Statistics (M=3.36, S.D=.940) , Looking Inward for Ideas (M=3.01, S.D=.924) , All Experiments are Flawed (M=2.88, S.D=.744), Focus on Varied Investigative Styles (M=3.31, S.D=.789) and Total RTE (M=3.19, S.D=.471) the tendency of responses is found to be near undecided about respondents attitudes. The detail is shown in figure 1.

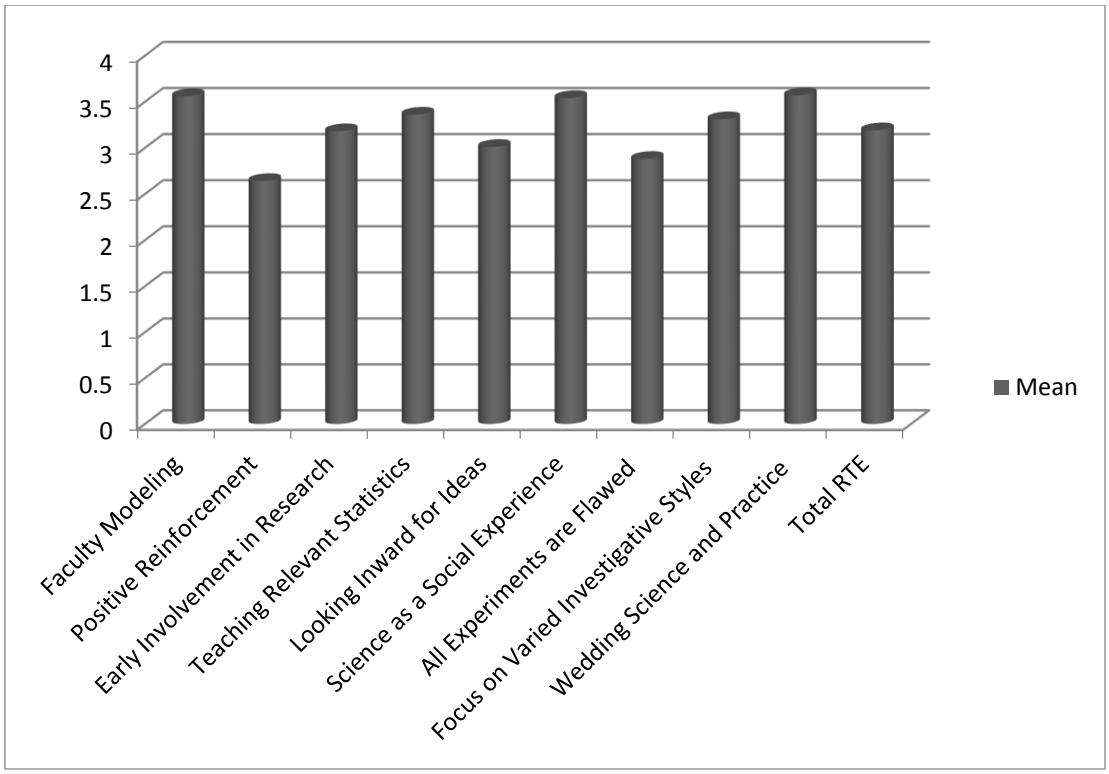

Figure 1: shows factors of RTE along X axis and mean responses of PTs perception along Y axis.

Table 2

Comparison of male and female PTs perceptions about RTE

	Gender	N	Mean	Df	T	Sig.
	Male					
		30	92.47			
RTE				175	-.805	.427
	Female	147	96.43			

Table 2 shows that there is no significant difference (t(175)= -.805, p>0.05) in the mean score of male (M=92.47) and female (M=96.43) respondents with respect to RTE. So the hypothesis *"there is no difference in male and female university PTs perceptions about research training environment*" is accepted.

Table 3

Comparison of Regular and Self-support PTs perceptions about RTE

	Type Of Program	N	Mean	df	t	Sig.
RTE	Regular	95	96.45	175	.705	.482
	Self-Support/Evening	82	94.95			

Table 3 shows independent sample t-test for type of program wise mean difference about RTE. Table shows that there is no significant difference (t(175)=.705, p>0.05) in the mean score of regular (M=96.45) and Self-Support/Evening (M=94.95) respondents with respect to RTE. So the hypothesis *"there is no difference in regular/morning and self-support/evening university PTs perceptions about research training environment"* is accepted.

Table 4

Age wise Comparison of PTs Perceptions about RTE

		Sum of Squares	Df	Mean Square	F	Sig.
RTE	Between Groups	3704.610	5	740.922	4.039	.002
	Within Groups	31369.944	171	183.450		
	Total	35074.554	176			

Table 4 shows ANOVA test analysis for age wise mean difference in RTE. Table shows that there is significant difference (F=4.04, p<0.05) in the mean score of respondents from different age groups for RTE. So the hypothesis *"there is no difference in PTs perceptions about research training environment with respect to age"* is rejected.

Table 5

ANOVA test for prior specialization *wise mean difference*

		Sum of Squares	Df	Mean Square	F	Sig.
RTE	Between Groups	2030.708	3	676.903	3.544	.016
	Within Groups	33043.846	173	191.005		
	Total	35074.554	176			

Table shows ANOVA test analysis for prior area of specialization wise mean difference in research training environment. It shows that there is significant difference (F =3.54, p<0.05) in the mean score of respondents having different areas of specialization for research training environment. So the hypothesis "*there is no difference in Prospective teachers' perceptions about research training environment with respect to area of specialization at Intermediate level"* is rejected.

DISCUSSION

The findings have also shown that the prospective teachers perceive that they have poor research training environment as a whole. These findings are in line with the findings of Aslam, Qayuum, Mahmud, Qasim and Haque (2004) and Zhang (1996), who stated that research training environment is found to be poor globally.

The current study highlights that in a continuum from poor to better; the Prospective teachers' responses are in the midst which shows that they are *undecided* in their responses. It shows that research training environment is not up to their satisfaction level and they themselves perceive that they can't decide whether they should agree with the better or disagree with it. The findings of demographic variables show that Prospective teachers have performed different for the

variables age and prior area of specialization. The further analysis has showed that the prospective teachers with matured age group have different perceptions about research training environment than others. The poor perceptions of matured age group about research training environment may be due to the experience and brooder vision of them about their research training environment. Similar findings were found by Javed, Naeem, Kingdon, Irfan, Izhar and Ayub, 2006; Busch, 1995; Kirkpatrick & Cuban, 1998; Jennings & Onwuegbuzie, 2001 and Holmes, 2007. They reason of this finding may be that it is not up to their needs and they feel that it is not a better research training environment. Also the differences in responses are found for area of specialization wise perceptions about research training environment. The high perceptions of Arts students in comparison with the students of Pre-medical can be interpreted as, that the pre-medical students were already in a better environment then Arts students, in the context of schooling in Pakistan. Similar findings were found by Shams & Mahmood (2011) who had explored the university experiences of Arts and Pre-medical students.

In the present study the researcher has explored the variables of research training environment and attitude towards research with the prospective teachers of B.Ed. Honors only. Future researchers should explore these variables with different populations like B.Ed., M.Ed. and students of M.A Education. It may be possible to find different results for different populations of prospective teachers. The reason of this hypothesis may be that the prospective teachers of B.Ed. Honors belong to a small age group with very little or no teaching experience. So they may have no sufficient exposure to comment on the research training environment.

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RECOMMENDATIONS & SUGGESTIONS

On the bases of the findings of the above study, following recommendations are given

- The faculty members should give prospective teachers' knowledge about various type and methodologies of research studies to overcome their research related difficulties.

- Prospective teachers should be provided opportunity to involve in research before actually undertaking a research project for writing research thesis.
- In order to reduce the anxiety of research in prospective teachers, to overcome research difficulty, and to develop research training environment research seminars, conferences and workshops should be arranged.
- Prospective teachers should be taught relevant statistics that they have to use in their research rather than teaching statistics as a whole subject.
- Future researchers can make a comparison of perceptions about research training environment in university students of more than one city.
- This study used a quantitative approach; future research should use qualitative research method, also to investigate the same phenomena.
- Future research can explore the relationship of research training environment and attitude towards research and also consider other demographic variables.

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