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A Study of Home Environment, Academic Achievement and Teaching Aptitude on Training Success of Pre-Service Elementary Teachers of India

Sunita Rani, Ph.D Scholar, IASE, JMI, New Delhi, INDIA
Prof. M. A. Siddiqui, IASE, JMI,New Delhi, INDIA

Abstract
The primary intend of the study was to explore the relationship of Arts, Science and Commerce stream and training success and the influence of Home Environment, Academic Achievement and Teaching Aptitude on training success of ETE trainees. The study analyzed the numerical data from a survey of 380 teacher trainees of three DIETs of Delhi, India.Teaching Aptitude Test of SS Dahiya and L C Singh (2005) and Home Environment Inventory by Karuna Shakar Mishra) was applied. Teaching Aptitude test has 50 items of multiple-choice type. Each item has four alternative answers - A.B.C.D. Home Environment Inventory has HEI Contains 100 items related to ten dimensions of home environment. Achievement of the students was taken from their 10+2 result, whereas their training success was established on the basis of marks obtained in final year in theory and Practice of ETE course.Study revealed that Home environment and teaching aptitude of ETE trainees is significantly and positively correlated with training success. Similarly academic achievement at +2 level of the three streams students ie., Arts, Science and Commerce differs significantly and the two groups of trainees. Trainees having Low aptitude and High aptitude differ significantly in regard to training success in ETE programme.
Keywords: Home Environment, Teaching Aptitude, Academic Achievement and Training Success

The Concept

The quality of education depends on the ability, hard work and dedication of the teacher. If a teacher fails to keep himself in touch with the rapid scientific and educational developments then he would become inefficient and ineffective. Teachers are a nation's great assets. It is the quality of teachers on which the population of a country mainly depends for excellence. Teachers' credibility depends on how they take up the rights and responsibilities, which are associated with the position. Teachers are different with respect to their attitudes and in what they expect from students. Quality Concerns in Secondary Teacher Education NCTE 1998 says that— teacher is the most important element in any educational program. It is the teacher who is mainly responsible for implementation of the educational process at any stage. This shows that it is crucial to invest in the training of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system can in no way be overemphasized. The National Curriculum Framework (2005) places demands and expectations on the teacher, which need to be addressed both by initial and continuing teacher education.

The objectives of teacher education can be achieved to a great extent only when we admit candidates who have interest and aptitude for teaching vis-à-vis the present day demands on teacher education programs and their potentiality for the teaching job. Candidates should have good knowledge of the subject matter which they are supposed to teach in schools (Tyagi, 2013). This is specifically true that teachers coming out of institutes and colleges of education should not only have knowledge and understanding but also have command over pedagogic skills they require to be effective. A number of studies, conducted in the field of teaching aptitude, academic achievement, personality traits, successful and popular teacher, are based on selection criterion of B.Ed. trainees, impact of SES, age, sex on teacher's performance and some on teacher characteristics and their perception about classroom behaviour motivation. Most of these studies more of less are on B.Ed. teacher trainees, experienced teachers primary, secondary and senior secondary school level. Predictors of academic Achievement of student teachers at are Aptitude, attitude, Participation and Human values (D.K. Diwan, MDU, 1993). Studies have contributed to the knowledge base of teacher education significantly, but, there is a need to work out systematically the admission criteria for various teacher education programmes.

Researchers have reported that parent-child interactions, specifically stimulating and responsive parenting practices, are important influences on a child's academic development (Christian, Morrison and Bryant, 1998). By examining specific parenting practices that are amenable to change, such as parent involvement, and the mechanisms by which these practices influence academic performance, programmes may be developed to increase a child's academic performance. While parent involvement has been found to be related to increased academic performance, the specific mechanisms through which parent involvement exerts its influence on a child's academic performance are not yet fully understood (Hills and Craft 2003) Understanding these mechanisms would inform further research and policy initiatives and may lead to the development of more effective intervention programme designed to increase children's academic performance.

It has been proved in many researches that Home environment has consistently been associated with a child's academic performance (Hara and Burke, 1998; Hill and Craft, 2003). Specifically, children whose parents at home are more involved in their education have higher levels of academic performance than children whose parents are involved to a lesser degree. The influence of parent involvement on academic success has not only been noted among researchers, but also among policy makers who have integrated efforts aimed at increasing parent involvement into broader educational policy initiatives. Coupled with these findings of the importance of early academic success, a child's academic success has been found to be relatively stable after early elementary school (Entwisle and Hayduk, 1998). It is important to examine factors that contribute to early academic success and that are amenable to change. Home environment is essentially the most important factor in this regard.

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Many studies have been conducted to know the relationship between home environment and adjustment, home environment and achievement at school and college level. But no study seems to have been carried out to see the association of home environment with performance during training, specifically teacher training at elementary level. Students getting higher marks at +2 level are not necessarily outstanding in higher studies or professional programmes. The present study aims at finding out the association of academic achievement at +2 level, teaching aptitude and home environment with training success.

During the past several years SCERT, New Delhi had used entrance test for selecting prospective teachers. This test comprised test of mental ability, general awareness, teaching aptitude and interview, etc. However, since 2007, admission to Delhi DIETs is being made on the basis of merit, that is, marks obtained by the candidates at their Sr. Sec. Exam conducted by CBSE or State Boards of Education, with a proviso that 85% candidates will be selected on merit for admission to DIETs.

It is to be reviewed and researched whether the change in admission policy by SCERT, Delhi has resulted in selecting candidates who would perform better during training.. There was a need to take up a study for formulation of valid policy for admission of suitable candidates to the two year Elementary Teacher Education (ETE) programme being run by DIETs in the National Capital Territory of Delhi.

OBJECTIVES

1. To study the degree of association of teaching aptitude with training success of ETE trainees of all three streams.
2. To study the degree of association of academic achievement at +2 with training success of ETE trainees of all three streams.
3. To study the degree of association of Home Environment with training success of ETE trainees of all the three streams.
4. To compare the Practical, Theory and Total Marks of Art, Science and Commerce stream students.

METHODOLOGY

In the present study, a survey method of educational research has been used. Interview technique was used to get the perception of principals and faculty about the selection policy for admission to DIETs in Delhi. 380 ETE trainees of 3 selected Delhi DIETs of 2012-2014 batch formed the subjects in the study.

Teaching Aptitude Test of SS Dahiya and L C Singh (2005) was applied in the study. The test has 50 items of multiple-choice type. Each item has four alternative answers - A.B.C.D. One can obtain the score on the test ranging from 60.06 and above to 33.73 and below. Reliability coefficient of the test is 0.82. Home Environment Inventory has HEI Contains 100 items related to ten dimensions of home environment. The ten dimensions are (A) Control, (B) Protectiveness, (C) Punishment, (D) Conformity, (E) Social Isolation, (F) Reward, (G) Deprivation of Privileges, (H) Nurturance, (I) Rejection, and (J) Permissiveness. Each dimension has ten items belonging to its fold.

Achievement of the students was taken from their 10+2 result, whereas their training success was established on the basis of marks obtained in the examination of final year in theory and Practice of ETE course.

Table 1: Inter-correlation Matrix of Variables- Teaching Aptitude, Achievement in 10+2, Home Environment and Training of Success of all Streams (N=380)

Variables	Aptitude	Achievement in 10+2	Home Environment	Second Year Total marks (training success)
Aptitude	1			
Achievement in 10+2	.346**	1		
Home Environment	.121*	.013	1	
Second Year Total Marks (training success)	.294**	.335**	.081	1
**. Correlation is significant at the 0.01 level				
*. Correlation is significant at the 0.05 level				

OBJECTIVES 1 T o study the degree of association of teaching aptitude with training success of ETE trainees of all three streams.

Ho1 There is no significant association of teaching aptitude with training success of ETE trainees of all three streams.

Table 1 reveals that teaching aptitude and training success of all the three streams is significantly and positively correlated (0.294 p <.01). Hence, the hypothesis that there is no significant association of teaching aptitude with training success of ETE trainees of all three streams is rejected. It shows that aptitude and training success of all three streams increase or decrease proportionally.

OBJECTIVE 2 To study the degree of association of academic achievement at +2 with training success of ETE trainees of all three streams.

Ho 2 There is no significant association of Academic Achievement in 10+2 with training success of ETE trainees of all the three streams.

Table 1 shows that Achievement in 10 +2 is significantly and positively correlated at .01 level with the training success of all the three streams with a value of 0.335. Thus, it can be inferred that there exists a significant association of Achievement in 10+2 with training success of ETE trainees of all the three streams. Therefore, the null hypothesis that there is no significant association of Achievement in 10+2 with training success of ETE trainees of all the three streams stands rejected. It indicates getting good Achievement is the predication of success in any teacher training program.

OBJECTIVE 3 To study the degree of association of Home Environment with training success of ETE trainees of all the three streams.

Ho3 There is no significant association of Home Environment with training success of ETE trainees of all the three streams.

Table 1 shows a positive correlation value .081 between the home environment and the training success. The correlation between the variables is not significant so the hypothesis that there is no significant association of home environment with training success of ETE trainees of all the three streams is accepted.

Table 2: Comparison of dependent variables among three streams: Arts, Science and Commerce using ANOVA

Variables of Training Success	Arts Stream		Science Stream		Commerce Stream		F Value	t value		
	Mean	SD	Mean	SD	Mean	SD		Comparison between Arts and Science	Comparison between Arts and Commerce	Comparison between Science and Commerce
Marks in Practical	218.37	11.040	220.33	33.762	221.25	7.990	1.28NS	.730 NS	2.293 NS	.251NS
Marks in Theory	247.24	21.960	261.47	43.091	261.52	16.161	14.998**	3.396**	5.695**	.009 NS
Total Marks	465.60	28.267	481.80	74.897	482.76	19.290	9.645**	2.573 NS	5.383**	.118 NS
**.Significant at the 0.01 level										
*.Significant at the 0.05 level										

OBJECTIVE 4 To compare the Practical, Theory and Total Marks of Art, Science and Commerce stream students.

Ho4. There is no significant difference in practical marks of Arts, Science and Commerce stream students.

Table 2 reveals that the obtained F-value of three streams on practical marks is 1.28 (NS) which indicates that there is no significant difference in practical marks of Arts, Science and Commerce stream students. Thus, the hypothesis that there is no significant difference in practical marks of Arts, Science and Commerce stream Students is accepted.

Ho4.1 There is no significant difference in Theory marks of Arts, Science and Commerce stream Students

It can be seen from Table 2 that the calculated F-value of three streams on theory marks is 14.998 which shows

that there exists a significant difference in theory marks of Arts, Science and Commerce stream students. Therefore, the hypothesis that there is no significant difference in theory marks of Arts, Science and Commerce stream students is rejected.

$Ho_{4.2}$. There is no significant difference in Training Success of Arts, Science and Commerce stream Students

Table 2 shows that the obtained (F-value 9.645, $p < .01$) which indicates that there is a significant difference in Training Success of Arts, Science and Commerce stream students. Therefore the hypothesis that there is no significant difference in Training Success of Arts, Science and Commerce stream Students is rejected. So it can be concluded that training success differs in all three streams.

$Ho_{4.3}$. There is no significant difference in Practical marks of Arts, Science stream Students.

It can be seen from Table 2 that the obtained t value is .730 (NS) which is less than the table value at both the levels, i.e. .01 and .05 level. Hence, the null hypothesis that there is no significant difference in the practical marks of the Arts and Science stream students is accepted. Therefore, it is concluded that --

$Ho_{4.4}$. There is no significant difference in Practical marks of Arts, Commerce stream Students.

The table 2 reveals that the calculated t-value on practical marks of arts and science stream students is 2.293 which is not significant at any level. This indicates that there is no significant difference in practical marks of the Art and Commerce stream students. Hence, the formulated hypothesis that there is no significant difference in Practical marks of Arts, Commerce stream Students is accepted.

$Ho_{4.5}$ There is no significant difference in Practical marks of Science and Commerce stream Students

Table 2 shows that the obtained t value is .251 which is not significant (NS). Thus, the hypothesis that there is no significant difference in Practical marks of Science and Commerce stream Students is accepted.

$Ho_{4.6}$. There is no significant difference in Theory marks of Arts, Science stream Students

Table 2 indicates that the obtained t-value in Theory marks of Arts, Science stream Students is 3.396 which is significant at .01 level. Therefore, the null hypothesis that there is no significant difference in Theory marks of Arts, Science stream Students stands rejected since there is evidently significant difference in the theory marks of Arts and Science stream students.

$Ho_{4.7}$. There is no significant difference in Theory marks of Arts, Commerce stream Students

Looking at the theory marks of Arts and Commerce stream students then clearly shows the t-value of 5.695 which indicates that there is a significant difference in the theory marks of these two streams. Thus, the hypothesis that there is no significant difference in theory marks of Arts, Commerce stream students is rejected. Therefore it is concluded-

$Ho_{4.8}$. There is no significant difference in Theory marks of Science and Commerce stream Students.

The insignificant t-value of 0.009 as indicated by Table 2 clearly shows that there is indeed no significant difference in the theory marks of Science and Commerce stream Students. Hence the above stated hypothesis that there is no significant difference in Theory marks of Science and Commerce stream Students is accepted.

$Ho_{4.9}$. There is no significant difference in Training success of Arts, Science stream Students.

The t-value of 2.573, as observed from Table 2, reveals that there is no significant difference in the total marks which means the training success of Arts and science stream students. Thus the hypothesis that there is no significant difference in Training success of Arts, Science stream Students is accepted.

$Ho_{4.10}$. There is no significant difference in Training Success of Arts, Commerce stream Students.

From the Table 3 t-value of 5.383 puts forth the fact that there exists a significant difference in the total marks or the training success of Arts and Commerce stream students. Hence, it can be concluded that the hypothesis there is no significant difference in Training Success of Arts, Commerce stream Students is rejected.

$Ho_{4.11}$. There is no significant difference in Training Success of Science and Commerce stream Students

Table 2 shows that the calculated t-value is 0.118 which is less than the Table value, indicating that there is no significant difference in total marks or training Success of Science and Commerce stream Students. Hence, the above mentioned hypothesis is accepted. Hence, it can be concluded that science and commerce stream students do not differ significantly in regard to training success.

Discussion of Results

Before accepting the above results, an attempt has been made to examine the findings of some of the important contemporary studies in this area for a comparative overview. The discussion begins with the correlates associated with training success of ETE trainees and also delineated differences between the compared groups and also other categorized groups of trainees and follows it up with correlates of ETE training success.

Home Environment and Training Success

Home environment is a significant dimension influencing the parental attitudes as well as behaviour of the children. It is generally reported that the un-conducive home environment reduces the possibilities of learning capabilities. As shown in the analysis, environment of student is significantly correlated with the training success. These results are similar to those of Sinha (1991) and Muola(2010) who found that achievement of the students depended on conducive environment. Findings of the present study also tend to support those of Rubinstein

(1996) who established an association between Home Environment and academic achievement. Bacete et.al (2001) also showed that the involvement of parents in school activities is directly associated with the academic achievement of the students. The present findings are also supported by the findings of Murphy, S (2009) who found that parental encouragement has positive and significant relationship with academic achievement.

Teaching Aptitude and training Success

In the present investigation it has been found that aptitude is by and large, positively and significantly correlated with the training success of ETE trainees. The study has also tried to establish that there was a significant difference among the students of all three streams in regard to aptitude. Similarly, the present study seeks to establish that Academic Achievement in 10+2 and Aptitude an important predictor of training success.

Results appear to be in the line with the findings of Shah, Beena (1991) who found that aptitude is a predictor of the training success of secondary level teachers; and Kukreti B.R. (1992) and Patil G.G and Deshmukh, D.V. (1993) who also showed that teaching aptitude determine the success of teaching. The findings of the present study in relation to Aptitude and success are consistent with the previous research findings of Al-Alwan IA (2009), too, who found that academic performance shows good correlation with the admission criteria used, namely final high school grade (Saudi National Aptitude and Achievement Examination).

The findings of the study have also revealed that there is significant & positive correlation between the variables of teaching success and teaching aptitude. Successful teachers' scored significantly higher score on intelligence as compared to their unsuccessful counterparts

The present study has been able to establish significant differences in aptitude of Arts, Science and Commerce streams students which is contradictory to the findings of Harmeet (2014), who, in her, study found that streams showed no significant difference in level of achievement in aptitude test. This seems to be a problem for further studies.

Academic Achievement and Training Success

Results appear to be in the line with the findings of Tharyani, D.K. (1986) who found correlation to be significant between academic achievement and training success. Kaur, Dushyant (2007) also found that academic achievement and teaching aptitude has 25% contribution to training success.

Conclusion

The various types of analyses and the corresponding results in the study revealed that almost all the variables were positively correlated to the training success of the ETE trainees. The study has also been able to establish a significant difference among all the three streams in regard to academic achievement at 10+2 level and similarly in regard to Home Environment and aptitude also. Teaching Aptitude is the most significant aspect to enhance the teaching skills of the students pursuing ETE course. It is an established fact that if an individual has aptitude for teaching he will perform better in any circumstances. If a student does not have the required aptitude for teaching he/she should not enter this profession, as a teacher has responsibility of thousands of students. A Student with lack of teaching aptitude will not take interest in teaching and learning.

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