

Teacher's Techno-Competency of Pre-service and In-service B.Ed trainees in relation to Self- efficacy

Ashish Narayan Mathur

Research scholar, RDVV, Jabalpur.

Received: June 21 , 2018

Accepted: August 07, 2018

ABSTRACT

The attempt was made to find out the relation of self-efficacy on techno –competency of Pre-service and in-service B.Ed students. The sample for the present study consists of 995 B.Ed students from 26 B.Ed colleges of Jabalpur district of Madhya Pradesh were selected through random sampling. The findings of the study revealed that there is no direct effect of service condition on teacher's techno competency of B.Ed trainees. Further the study also confirmed that there is interaction effect of self-efficacy and service condition on teacher's techno competency of B.Ed trainees

Keywords:

Introduction:

In present context knowledge of technology is become an essential part of teacher education. Every teacher must have knowledge of technology for enhancing their teaching. The information and communication is a major tool of teachers for effective teaching learning process and institution administration. In the present age of rapid change and uncertainty teachers need to adopt techno competencies if they have to survive and keep pace with new methods of technology.

Self-efficacy is the belief in one's capabilities to achieve a goal or an outcome" (Bandura,1986) Miura(1987)has mentained that self-efficacy may be an important factor related to gaining of technical skills.

Need and Importance of the study

NCTE emphasized on techno competency skills in teacher education curriculum . Thus technology understanding in the form of techno competency is much required by the teachers. Self-efficacy is the self belief of the teachers to perform specific task and skills .studies indicate that university teachers have low levels of computer anxiety and high level of computer self efficacy(Ball,2008;Emby2007) Therefore it is essential to incorporate self-efficacy among teachers so that they can become more techno- competent.

The present study deals specifically with in-service and pre-service teachers. It is attempt to know whether self-efficacy can be viewed as a means of enhancing technical skills? Is service condition (pre-service and in-service affect the techno competency of B.Ed trainees.

Methodology:

Objectives:

1. To determine the main effect of Self-Efficacy on Teacher techno competency of B.Ed trainees.
2. To determine the main effect of Pre-service and In-service condition on Teacher techno competency score of B.Ed trainees.
3. To determine the interaction effect between Self- Efficacy and Pre-service and In-service condition on Teacher techno competency.

Hypothesis:

There is no significant relationship in techno –competency score(T) among the self-efficacy groups (four group) of pre-service and in-service B.Ed trainees.

1. There is no significant main effect of self-efficacy on techno-competency score of B.Ed trainees.
2. There is no significant main effect of service condition (in –service and pre -service) on techno – competency score of B.Ed trainees.
3. There is no significant interaction effect between self-efficacy and service condition (in-service and pre –service) on techno-competency score.

Research Design:

The present study was an Ex post facto type in which descriptive survey method was used.

To study the main effect and interaction effect of independent variable i.e Self-efficacy and service condition on dependent variable teacher’s techno competency. Two way ANOVA (2X2 factorial design) was used.

Sample

There are 26 B.Ed colleges in Jabalpur district of Madhya Pradesh) and the total strength of students of B.Ed colleges are nearly 5200.Hence out of total strength 1000 B.Ed trainees were randomly selected from government and private colleges of the Jabalpur district. Thus nearly 19% of B.Ed students from the population were selected as sample for the present study.

Tools:

s.n	Variable	Tool	Prepared By
1	Self-Efficacy	Self-Efficacy Scale	G.P Mathur& R.K Bhatnagar
2	Teachers Techno competency	Teacher Techno-Pedagogical Scale	S Rajshekhar&Sathiyaraj

Statistical technique:

For the analysis of data, stastics ie, measure of central tendency and dispersion- mean, standard deviation were used. To study the relation between teacher”s tecno competency and self-efficacy (among four groups) Pearson correlation method was used.To study the main effect of independent variable ie, self-Efficacy (higher and lower) and Service condition (Pre-service and in-service on dependent variable ie, teacher’s techno-competency of B.Ed trainees two way ANOVA (2X2) factorial design was used. All the analysis is carried out with the help of SPSS ver20.

Findings of the study:

1. The relationship in teacher’s techno competency among the self-efficacy group(four groups) of pre-service and in-service B.Ed trainees

Table 1

Correlation matrix shows relationship among scores of self Efficacy subgroups for techno-competency score.

	HSP	H SI	LSP	LSI
Pearson Correlation	1	.059	.012	.043
HSP Sig. (2-tailed)		.628	.924	.723
N	69	69	69	69
Pearson Correlation	.059	1	.092	.148
H SI Sig. (2-tailed)	.628		.450	.226
N	69	69	69	69
Pearson Correlation	.012	.092	1	.243*
SP Sig. (2-tailed)	.924	.450		.044
N	69	69	69	69
Pearson Correlation	.043	.148	.243*	1
LSI Sig. (2-tailed)	.723	.226	.044	
N	69	69	69	69

*. Significant at 0.05 level (2-tailed).

- Above table no 1 depicts that correlation value between higher Self Efficacy pre service (HSP) and high Self Efficacy in service (HSI) is .059 which is not significant. It shows that they are not related to each other.
- The value of correlation between high self efficacy subgroups of Pre service (HSP) and low Self Efficacy subgroup of pre service (LSP) is 0.012, which is not significant. It shows that high self Efficacy subgroup of Pre service (HSP) is also not related to lower self Efficacy subgroup of pre service (LSP).
- The value between high self efficacy subgroups pre service (HSP) and lower self efficacy in service (L S I) is .043 which is significant at 0.01 It reveals that high self efficacy group (HSP) is not correlated low self efficacy in service group (LSI).
- The value between high self efficacy subgroup of in service (H S I) and low self efficacy pre service (LSP) is .092.This result is not significant at 0.1 level. It shows that high self efficacy in service group is significantly and positively related to low self efficacy pre service group.

- The value between high self efficacy subgroup of in service (H S I) and low self efficacy in-service (LSI) is .148 This result is not significant at 0.1 level. It shows that high self efficacy in service group is significantly and positively related to low self efficacy pre service group.
- The co- relation value between low self efficacy pre service subgroup (LSP) and lower self efficacy in service (LSI) is 2.43 which is highly significant at 0.01 level this result shows that there is significant relationship is found between low self efficacy pre service sub group and low self efficacy in Service (LSI).

2. Main Effect and interaction Effect of Self -Efficacy and Service Condition on Teacher Techno competency of B Ed trainees.

Table no-2

Summary of (2X2) Factorial Analysis for Teacher’s Techno Competency

Tests of Between-Subjects Effects

Dependent Variable: TTPCS

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	23262.098 ^a	3	7754.033	26.223	.000
Intercept	5553626.091	1	5553626.091	18781.656	.000
Self - Efficacy	20128.438	1	20128.438	68.072	.000
Service Condition	6.699	1	6.699	.023	.880
Self-Efficacy x Service Condition	3126.960	1	3126.960	10.575	.001
Error	80428.812	272	295.694		
Total	5657317.000	276			
Corrected Total	103690.909	275			

a. R Squared = .224 (Adjusted R Squared = .216)

Table no -1 depicts that F statistic value corresponding to Self- Efficacy is 68.07 which was significant at .001 level of significance with df (1,272). So there is significant effect of Self-efficacy on teacher’s techno competency of B.Ed trainees

Table-No 3

Mean Scores of Self- Efficacy and Service Condition on Teacher’s techno competency

	High Self-Efficacy	Low Self-Efficacy	Mean
Pre- Service	153.91	130.10	142.01
In- Service	146.87	136.31	141.70
Mean	150.39	133.31	

Table no-3 depicts that The Mean score of teacher’s techno competency of High Self Efficacy(HS) B.Ed trainees is (M=150.39) which was significantly higher than of mean score of teachers techno competency of Low Self-efficacy B.Ed trainees which was is (M=133.31). Thus it can be concluded that High self-efficacy B.Ed trainees have higher r teacher’s techno competency than that of Low Self-Efficacy B.Ed trainees.

Table no-3 depicts that The mean score of teacher’s techno competency of Pre-service High Self efficacy B.Ed trainees HS was (M= 153.91). Which was significantly higher than Pre-Service Low self-efficacy B.Ed trainees which were (M=130.10). Similarly the mean score of teacher’s techno competency score of In-Service high self efficacy group HS (M= 146.81) and mean score of teacher’s techno competency of in-service Low Self Efficacy B.Ed trainees was (M=136.52) it indicates that Pre- Service and In-service High self-efficacy B.Ed trainees have higher teacher’s techno competency than Low Self efficacy Pre- Service and In-Service B.Ed trainees

(a) The main effect of service condition on teacher’s techno competency of B.Ed trainees

Table no -2 infers that F-statistic value between self-efficacy and service condition for teacher’s techno competency was .023 which was not significant at 0.05 level of significance with df (1,272). So there was not the significant main effect of service condition on teachers techno competency of B.Ed trainees.

(b) The interaction effect of self-efficacy and service condition on teacher’s techno competency of B.Ed trainees.

(i) F statistic value for an interaction effect between self –efficacy and service condition for teacher’s techno competency was 10.57 at df (1,272), which was significant at .05 level of significance. It shows that mean score of teacher’s techno competency of B.Ed trainees belonging to self-efficacy and service condition differed significantly. Thus there was a significant interaction effect of self-efficacy and service condition on teacher’s techno competency of B.Ed trainees.

Table no 4

Mean Scores of Self- Efficacy and Service Condition on Teacher’s techno competency

	High Self-Efficacy	Low Self-Efficacy	Mean
Pre- Service	153.91	130.10	142.01
In- Service	146.87	136.31	141.70
Mean	150.39	133.31	

(ii) The mean score of Teacher’s techno competency of high self-efficacy group (M= 150.39) is higher than the mean score of Low self-efficacy group (M=133.31). It differed significantly. Thus it concludes that the self-efficacy of B.Ed trainees affects their teacher’s techno competency.

(iii) The mean score of teacher’s techno competency of the Pre-service group is (M= 142.01) higher than Mean score of In-service group (M= 141.70). It showed that service condition also affects the teacher’s techno competency of B.Ed trainees.

Interpretation and Discussion :

- (1) Table no 1 infers that among all the four groups only low self-efficacy pre- Service and Lower self-efficacy subgroup is positively co-related to each other. According to the investigator, it is due to fact that both the subgroups having the same attitude towards ICT and both subgroups having lower efficacy in performing the giving task. Therefore they belong to the same category. Thus they positively related to each other.
- (2) From the table no 2 it is evident that Significant main effect of Self –Efficacy was found on techno competency of B.Ed trainees. This is supported by the study conducted by Miura(1987) that self-efficacy may be an important factor related to gaining of computer skills and computer self-efficacy is an exact type of self-efficacy. The t-test result indicates that there is a significant difference was found between high (Self-Efficacy and low self-efficacy of B.Ed trainees. This was further confirmed by the significant mean difference between high self-efficacy group and low self-efficacy group towards teacher techno competency. This reflects that that teachers having Higher self-efficacy have a more confidence and higher attitude to use technology in teaching learning process This may be due to fact that people with higher Self- Efficacy used to made all efforts to complete a task leading to their better performance whereas people with low self-efficacy generally tend to avoid to task leading to their poor performance.Kinzie(2000), Abitt and Klett(2007) also indicated that students having high self-efficacy are more motivated and have a higher sense of techno competency to involve in activities related to ICT.
- (3) The significant interactional effect was found between Self –efficacy and Service condition on teacher’s techno competency. It is evident from the table no... and graph no that mean score of higher self-efficacy is higher than mean score of Low self- efficacy. An examination of individual items of Self- efficacy dimension wise shows that higher self-efficacy in-service and pre-service groups have a higher mean score as compared to Low In-service and pre-service groups. This indicates that both Self –efficacy and Service Condition effects jointly on teacher’s techno competency of B.Ed trainees. In the view of the investigator, it could be because one of the components in each self-efficacy group and service condition group is affecting simultaneously.

Conclusion:-

There is a significant effect of self-efficacy was found on teacher’s techno competency of B.Ed trainees. It is noticeably seen that high self-efficacy B.Ed trainees have high techno competency than \B. Ed trainees having Low self-efficacy.

- 1- It is found that only low self-efficacy pre-service B.Ed trainees and low self-efficacy in service B.Ed trainee are related among the self-efficacy group (four groups) of pre-service b.ed trainees in terms of their teacher’s techno competency.

- 2- It is noticeably found that there is not the direct main effect of service condition on teacher's techno competency of B.Ed trainees. Thus we can conclude that in-service B.Ed trainees and pre-service B.Ed trainees have an equal level of teacher's techno competency.
- 3- It is noticeably seen that there is an interaction effect of self-efficacy and service condition on teacher's techno competency of B.Ed trainees. It is therefore concluded that one of the groups of B.Ed trainees between self-efficacy and service condition influence the teacher's techno competency.

References

1. **Arya, S. (2012)** Comparative study of computer self-efficacy, computer anxiety and attitude towards computer usage among primary and secondary teachers in relation to locus of control.Unpublished Ph.D. thesis, Punjab University, Chandigarh.
2. BALL,D.M.(2008). An empirical investigation of the contribution of computer self-efficacy, computer anxiety and instructor's experience with the use of technology in their intention to use emerging educational technology in the traditional classroom.Unpublished Ph.D. Thesis, Nova southeastern university, Florida.
3. zabeth Potchelve,(2010). ET.Including technological know-how and Integrating into the curriculum in the teaching-learning Process.Indian Educational review Vol47, number 2 July 2010 p.115-1130.
4. Mehra, V and Far, ZN.(2015).Attitude towards Information and Communication Technology Use among University Teachers of different facilities in Relation to Computer anxiety.Indian Educational Review Vol 53 January 2015.
5. Sahni, M.(2012).Knowledge of Computers among prospective teachers. Indian Educational Review Vol 50 January 2012
6. **NCTE 1998.** Competency-based and Commitment oriented Teacher Education For Quality School Education-Initial Document. New Delhi
7. **NCTE 1998.** Competency-based and Commitment oriented Teacher Education For Quality School Education-Pre-service Education New Delhi
8. **NCTE 1998.** Competency-based and Commitment oriented Teacher Education For Quality School Education-In-service Education New Delhi
9. Singh, Vinod Kumar(2008).A study of Level of teaching Competencies of primary school teachers. Indian Journal of Education Research, Vol27, No.1Jan-Jun2008 p.11.15