
EFFECTIVENESS OF PRE-SERVICE TRAINING PROGRAMME TO SCHOOL TEACHERS ON COMPUTER SCIENCE

Parthasarathy.K¹,

Dr.K.Parthasarathy, (Chair - School of Skill Development and Entrepreneurship),
Professor & Director, Institute of Entrepreneurship and Career Development,
Bharathidasan University, Khajamalai Campus, Tiruchirappalli

Shanmuga Priya.P.M²,

Ms.P.M. Shanmuga Priya, Assistant Professor,
Department of Civil Engineering,
B.S.Abdur Rahman University (Deemed), Vandalur, Chennai

Monika.M³

Ms.M.Monika, Research Scholar,
Department of Management Studies,
Ururu Dhanalakshmi College, Kattur, Tiruchirappalli

Abstract

The evaluation of any training programme aims at providing information and skills to the organization or institution as to whether the training programme succeeded in delivering the goals and objectives in term of the cost incurred and benefits achieved. The efficiency of any educational institution depends upon the capability of the teachers and their capability depends upon the evaluation factors of the training. Training and development must be appropriate for the person and the situation. Only if it produces the desired outcome, can training be said to be effective. Every educational institution should have an idea forum on which the evaluation scheme can be built and assessment of training activities be done. This paper is aimed to evaluate the effectiveness of the pre-service training to school teachers on computer science. It is found that majority of the respondents (69.4%) strongly agreed that the entire pre-service training programme was very useful and operationalized very effectively.

Keywords: Pre-Service Training, Learning Skills and Knowledge.

I. INTRODUCTION

This paper attempts to review the effectiveness of pre-service training programme from various perspectives. The success of any organisation depends upon the right use of human force available in that organisation. This human force is called by various names like staff, man power or personnel. In any case they are the asset of the organisation and all other assets are supplementary to their human asset. In order to cope up with the changes, both internal and external, and augment the human resources, the organisation should concentrate on developing the ability, skills and wisdom of this man power. The effectiveness of any training programme, according to this study, is dependent upon to consideration. First, the trainer should be accountable and responsible for training and the results and secondly, the kind of atmosphere and culture prevalent at home decide the effectiveness of training. Moreover training programme should focus on corporate planning and personnel management, (Srinivasan, 1997). So training becomes the base for the development of human asset and it is a tool employed to improve the work culture of the group involved in a group task of an ideal training programme. It should change the attitude and skills of the participants and help to forward the vision then towards the task. It is of paramount important for an organisation to re-structure its human assets to adopt itself to changes because changes are always constant. For this reason any training programme can't have a unanimous methodology for evaluation. The methodologies keep changing according to suitability.

II. DIFFERENT VIEWPOINT ON TRAINING PROGRAMMES

Monika, et. al., (2016), studied on the training programme implemented by Southern Railway, Golden Rock, Tiruchirappalli District, Tamil Nadu, India. This study concluded that the training programme is concentrated on areas of job related trainings, quality aspects, information and technological skills. Majority of the trainees replied that, the ISO 9001 certifications training programme was fulfilled. Some of the trainees are not satisfied on the training methods used. It deals with both HR advantaged and universal managers to build capabilities that assure the successful implementation of business approach. Finally this study concluded that the ISO 9001 Certification programme was not influencing the work experience of trainees.

Ramachandran, (2010), study on the effectiveness of training programme was conducted for different carder of employees in a public sector organisation. Variation in the effectiveness of training programme was found on the basis of demographic characteristics. The determining factor in the training was the experience and education of the employees of the organisation.

Iyer, Pardiwalla & Bathia, (2009), tried to explore the various method of training evaluation to find out its need with special emphasis on kirkpatrick's model. Though different methods of training evaluation were in vogue, training evaluation was the weakest and the most under developed aspect of

training. Its suggested that every organisation has to move in evaluation in order to ensure that the investment made in training and training process is justifiable.

Gopal, (2008), carried out evaluation in Electronic of India limited to examine the valuation of effectiveness of executive training programmes. Individualized evolution and overall evaluations of programme were the two ways adopted. It provided useful feedback to the training professional and the management. It concluded that evaluation of training was not the end point in the training function but a beginning one.

III.Objective of the study

- To find out the socio-economic profile of the respondents of the study.
- To study the effectiveness of the respondent's gender, marital status and family type with their responses on the pre-service training programmes on computer science.

IV. Methodology

The methodology adopted for carrying out the investigation of the present study is survey method and design used is descriptive in nature. The dependent and independent variables are involved in the present study. The research tool used for collecting primary data is made through structured questionnaire, which would exactly measure the effectiveness of training programme of the study area. The study was done at the Institute for Entrepreneurship and Career development (IECD) with a sample of 40 respondents. The research tool is divided into 2 parts. Part - 1 deals with personal profile of the respondents and Part-2 deals with the feedback on effectiveness of the pre-service training programme. Five point scaling technique was used for getting responses from the respondents in the study area with appropriate scoring pattern. Census sampling method has been used in this survey. The raw data collected was systematically coded, scored and tabulated by using statistical techniques with the support of SPSS package.

Perceptions in respect of predictors under the criteria were obtained by administering the questionnaire among the sample for teachers belonging to school education. Their responses were collected through five point Likert scale and these data were then converted to numerical ones to be fitted with statistical technique.

V. Hypotheses, Test and Results

This part deals with analyses for personal profile and hypotheses.

Table 1: Socio-economic Profile of the Respondents

<i>Socio-economic Profile</i>	<i>Category</i>	<i>No. of Respondents</i>	<i>Percentage</i>
Age Group	20 - 25 Years	12	30.0
	26 - 30 Years	14	35.0
	31 - 40 Years	11	27.5
	Above 41 Years	3	7.5
	Total	40	100
Gender	Male	8	20.0
	Female	32	80.0
	Total	40	100
Educational Qualification	UG Degree	9	22.5
	PG Degree	25	62.5
	Professional Degree	6	15.0
	Total	40	100
Religion	Hindu	33	82.5
	Christian	7	17.5
	Total	40	100
Marital Status	Married	20	50.0
	Unmarried	20	50.0
	Total	40	100
Family Type	Nuclear Family	29	72.5
	Joint Family	11	27.5
	Total	40	100
Monthly Income	Below Rs.5000/-	8	20.0
	Rs.5001 – 7500/-	7	17.5
	Rs.7501 – 10000/-	15	37.5
	Rs.10001 and Above	10	25.0
	Total	40	100
Experience	No Experience	8	20.0
	1 – 4 Years	17	42.5
	5 Years and Above	15	37.5
	Total	40	100

Majority of the teachers (35%) are 26-30 years age group, 80 percentage teachers are unmarried. Majority of the teachers (72.5%) are belonging to nuclear family, nearly one-third of the teachers (37.5%) are getting a monthly salary of Rs. 7501 to 10000/- and 62.5 of the teachers are completed Post Graduation. Most of the teachers (42.5%) are having 1-4 years of teaching experience in schools.

Table 2: Distributions of the Respondents according to their feedback of the Pre-Service Training Programme on Computer Science

SI. No	Feedback Statements on Pre-Service Training Programme	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
1	The objectives of the training were clearly defined	23 (57.5)	17 (42.5)	-	-	-
2	Participation and interaction were encouraged	32 (80)	8 (20)	-	-	-
3	The topics covered were relevant to present day context	25 (62.5)	15 (37.5)	-	-	-
4	The content was organized and easy to follow	25 (62.5)	13 (32.5)	2 (5)	-	-
5	The Materials distributed were helpful	32 (80)	6 (15)	2 (5)	-	-
6	This training experience will be useful in computer science field	34 (85)	6 (15)	-	-	-
7	The trainers were knowledgeable about the training topics assigned to them.	31 (77.5)	9 (22.5)	-	-	-
8	The trainers were well prepared and delivered the both Theory & Practical's on Schools	28 (70)	11 (27.5)	1 (2.5)	-	-
9	The training objectives were met	19 (47.5)	20 (50)	1 (2.5)	-	-
10	The time allotted for the training was sufficient	19 (47.5)	11 (27.5)	9 (22.5)	1 (2.5)	-
11	The training venue, lab and facilities were adequate and comfortable	31 (77.5)	7 (17.5)	2 (5)	-	-
12	Overall the training was very useful	34 (85)	6 (15)	-	-	-
Consolidated average feedback of Pre-Service Training Programme		69.4%	26.9%	3.5%	0.2%	-

Note: Percentages are given in Parentheses. N=40

Table-2 present twelve statements concerning on assessing the training programme to school teacher on computer science in the study.

It is found that most of the respondents (57.5 percent) are strongly agreed the statement-1, "The objectives of the training were clearly defined", almost (80 percent) of the respondents are strongly agreed the statement-2 on "Participation and interaction were encouraged". Whereas (62.5 percent) respondents are strongly agreed Statement-3 on "The topics covered were relevant to present day context". Statement-4 on "The content was organized and easy to follow", are strongly agreed by (62.5 percent) of the respondents. Statement-5 on "The materials distributed were helpful", are strongly agreed by (80 percent) of the respondents. Statement-6 on "This training experience will be useful in computer science field", are strongly agreed by (85 percent) of the respondents. Statement-7 on "The trainers were knowledgeable about the training topics assigned to them", are strongly agreed by

(77.5percent) of the respondents. Statement-8 on “The trainers were well prepared and delivered the both Theory & Practical’s on Schools”, are strongly agreed by (70 percent) of the respondents. Statement-9 on “The training objectives were met”, are agreed by (50percent) of the respondents. Statement-10 on “The time allotted for the training was sufficient”, are strongly agreed by (47.5 percent) of the respondents. Statement-11 on “The training venue, lab and facilities were adequate and comfortable”, are strongly agreed by (77.5 percent) of the respondents. Finally the statement-12 on “Overall the training was very useful”, are strongly agreed by (85 percent) of the respondents.

From the table-2, it is overall concluded that the majority (69.4%) of the respondents are strongly agreed Pre-Service Training Programme to School Teachers on Computer Science, that the IECD, organized by Bharathidasan University, Tiruchirappalli, TamilNadu found to be very effective and useful for their academic tasks at their respective schools.

Testing of Hypotheses

The perception of socio-economic profile of the teachers with regard to the twelve criterions were fitted with ‘t’ test to find out the significance of the criterions and its influence over the pre-service training programmes. The obtained Levene’s test and ‘t’ value were portrayed in following tables.

Hypothesis - 1: There is no significant difference between gender of the respondents and their responses on pre-service training programme on computer science.

Table 3: T-test based on the respondents gender and their responses on training programme

<i>Independent Samples Test</i>						
<i>Criterion Variables</i>		<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		<i>t-test for Equality of Means</i>
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Df</i>	<i>Sig. (2-tailed)</i>
The Objectives of the training were clearly defined.	Equal variances assumed	39.086	.000	1.963	38	.057 (*Sig)
	Equal variances not assumed			2.436	15.178	.028
Participation and interaction were encouraged	Equal variances assumed	.528	.472	-.386	38	.702
	Equal variances not assumed			-.351	9.730	.733
The topics covered were relevant to present day content	Equal variances assumed	29.556	.000	1.648	38	.108
	Equal variances not assumed			2.036	15.043	.060
The content was organized and easy to follow	Equal variances assumed	.174	.679	.263	38	.794
	Equal variances not assumed			.222	9.116	.829
The Materials distributed were helpful	Equal variances assumed	.462	.501	-.723	38	.474
	Equal variances not assumed			-.753	11.352	.467
This training experience will be useful in computer science field	Equal variances assumed	.197	.659	.216	38	.830

	Equal variances not assumed			.222	11.143	.829
The trainers were knowledgeable about the training topics assigned to them.	Equal variances assumed	3.238	.080	-1.125	38	.267
	Equal variances not assumed			-.957	9.161	.363
The trainers were well prepared and delivered the both Theory & Practical's on Schools	Equal variances assumed	.037	.849	-.297	38	.768
	Equal variances not assumed			-.303	11.062	.767
The training objectives were met	Equal variances assumed	.523	.474	1.002	38	.323
	Equal variances not assumed			1.051	11.474	.315
The time allotted for the training was sufficient	Equal variances assumed	.516	.477	-.265	38	.792
	Equal variances not assumed			-.279	11.512	.785
The training venue, lab and facilities were adequate and comfortable	Equal variances assumed	3.506	.069	.853	38	.399
	Equal variances not assumed			1.150	18.241	.265
Overall the training was very useful	Equal variances assumed	.197	.659	.216	38	.830
	Equal variances not assumed			.222	11.143	.829

* Significant at 0.05 level in 2 tailed test.

The 't' values of the entire twelve criterion variable were found to be statistically not significant at 0.05 level of significance in 2 tailed test. It showed that there is no significant difference between the male and female teachers in respect of the above criterion factors.

From the data analysis presented in table-3, it is concluded that there are no significant difference between gender of the respondents and their responses on training programme, except *objectives of the training programme*. Hence, the formulated null hypothesis-1 is accepted and overall concluded that "there are no significant difference between the gender of the respondents and their responses on pre-service training programme on computer science" in the study area.

Hypothesis - 2: There is no significant difference between marital status of the respondents and their responses on pre-service training programme on computer science.

Table 4: T-test based on the respondents marital status and their responses on training programme

<i>Independent Samples Test</i>						
<i>Criterion Variables</i>		<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Df</i>	<i>Sig. (2-tailed)</i>
The Objectives of the training were clearly defined.	Equal variances assumed	1.879	.178	-.946	38	.350
	Equal variances not assumed			-.946	37.916	.350
Participation and interaction were encouraged	Equal variances assumed	41.771	.000	-2.494	38	.017 (*Sig)
	Equal variances not assumed			-2.494	26.603	.019
The topics covered were relevant to present day content	Equal variances assumed	.395	.534	-.319	38	.752
	Equal variances not assumed			-.319	37.973	.752
The content was organized and easy to follow	Equal variances assumed	.061	.807	.263	38	.794
	Equal variances not assumed			.263	37.995	.794
The Materials distributed were helpful	Equal variances assumed	31.735	.000	2.478	38	.018 (*Sig)
	Equal variances not assumed			2.478	22.989	.021
This training experience will be useful in computer science field	Equal variances assumed	.000	1.000	.000	38	1.000
	Equal variances not assumed			.000	38.000	1.000
The trainers were knowledgeable about the training topics assigned to them.	Equal variances assumed	.550	.463	.370	38	.714
	Equal variances not assumed			.370	37.764	.714
The trainers were well prepared and delivered the both Theory & Practical's on Schools	Equal variances assumed	.004	.952	-.297	38	.768
	Equal variances not assumed			-.297	37.125	.768
The training objectives were met	Equal variances assumed	1.211	.278	.000	38	1.000
	Equal variances not assumed			.000	36.956	1.000
The time allotted for the training was sufficient	Equal variances assumed	.122	.729	.712	38	.481
	Equal variances not assumed			.712	37.892	.481
The training venue, lab and facilities were adequate and comfortable	Equal variances assumed	9.358	.004	1.447	38	.156
	Equal variances not assumed			1.447	29.158	.159
Overall the training was very useful	Equal variances assumed	3.233	.080	-.872	38	.389
	Equal variances not assumed			-.872	35.237	.389

* Significant at 0.05 level in 2 tailed test.

The 't' values of the entire twelve criterion variable were found to be not statistically significant at 0.05 level of significance in 2 tailed test. It showed that there is no significant difference between the married and unmarried teachers in respect of the above criterion factors.

From the data analysis presented in table-4, it is concluded that there are no significant difference between marital status of the respondents and their responses on training programme, except *Interactions with trainers and fellow participants and materials distribution*. Hence, the formulated null hypothesis-2 is accepted and overall concluded that "there are no significant difference between the marital status of the respondents and their responses on pre-service training programme on computer science" in the study area.

Hypothesis - 3: There is no significant difference between type of family of the respondents and their responses on pre-service training programme on computer science.

Table 5: T-test based on the respondents type of family and their responses training programme

Independent Samples Test						
Criterion Variables		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2-tailed)
The Objectives of the training were clearly defined.	Equal variances assumed	1.155	.289	-.473	38	.639
	Equal variances not assumed			-.473	18.147	.642
Participation and interaction were encouraged	Equal variances assumed	17.029	.000	2.626	38	.012 (*Sig)
	Equal variances not assumed			2.094	12.769	.057
The topics covered were relevant to present day content	Equal variances assumed	.034	.856	-.089	38	.929
	Equal variances not assumed			-.088	17.751	.931
The content was organized and easy to follow	Equal variances assumed	3.616	.065	-.998	38	.325
	Equal variances not assumed			-1.144	24.558	.263
The Materials distributed were helpful	Equal variances assumed	1.212	.278	-.484	38	.631
	Equal variances not assumed			-.573	26.554	.571
This training experience will be useful in computer science field	Equal variances assumed	1.833	.184	-.632	38	.531
	Equal variances not assumed			-.705	23.010	.488
The trainers were knowledgeable about the training topics assigned to them.	Equal variances assumed	4.854	.034	1.288	38	.206
	Equal variances not assumed			1.138	14.636	.273
The trainers were well prepared and delivered the both Theory & Practical's on Schools	Equal variances assumed	.773	.385	-.383	38	.704
	Equal variances not assumed			-.414	21.295	.683

The training objectives were met	Equal variances assumed	.255	.616	-.668	38	.508
	Equal variances not assumed			-.695	19.581	.495
The time allotted for the training was sufficient	Equal variances assumed	1.453	.236	-1.551	38	.129
	Equal variances not assumed			-1.771	24.295	.089
The training venue, lab and facilities were adequate and comfortable	Equal variances assumed	2.051	.160	-.650	38	.520
	Equal variances not assumed			-.776	27.123	.445
Overall the training was very useful	Equal variances assumed	.437	.512	.339	38	.737
	Equal variances not assumed			.317	16.057	.755

* Significant at 0.05 level in 2 tailed test.

The 't' values of the entire twelve criterion variable were found to be statistically not significant at 0.05 level of significance in 2 tailed test. It showed that there is no significant difference between the nuclear family and joint family teachers in respect of the above criterion factors.

From the data analysis presented in table-5, it is concluded that there are no significant difference between family type of the respondents and their responses on training programme, except *Interactions with trainers and fellow Participants*. Hence, the formulated null hypothesis-3 is accepted and overall concluded that "there are no significant difference between the family type of the respondents and their responses on training programme" of the study area.

VI FINDINGS OF THE STUDY

General Findings

- **Age Group:** Those who were below the age of 20 – 25 years were 30 percent, 26 – 30 years were 35 percent, 31 – 40 years were 27.5 percent and above 41 years were 7.5 percent. The majority constituted the teachers sample having 26-30 years.
- **Gender:** It was observed that out of 40 teachers, there are 20% male and 80% female. The population of female outnumbered the male.
- **Educational Qualification:** Most of the respondents (62.5 percent) are studied PG (Post Graduate), 22.5 percent are holding UG (Under Graduated) and remaining 15 percent are having Professional degree.
- **Religion:** 82.5 percent of the respondents belong to Hindu religion and 17.5 percent of the respondents are Christian.
- **Marital Status:** Equal number of the respondents (50 percent) of the present study is unmarried and married.
- **Type of Family:** Majority of the respondents (72.5 percent) of the present study living as nuclear family and 27.5 percent of the respondents are living in joint family system.
- **Monthly Income:** 37.5 percent of the respondents are earning a monthly income between Rs.7501/- to Rs.10000/-, 25 percent of the respondents are getting Rs.10001/- and above, 20

percent of the respondents are getting below Rs.5000/- and 17.5 percent of the respondents are getting Rs.5001/- to 7500/-.

- **Years of Experience:** It is found that 42.5 percent of the respondents having the work experience between 1-4 years, 37.5 percent of the respondents having the work experience of 5 years and above and only 20 percent of the respondents are fresher's in school education.

Hypotheses Related Findings

- ✓ There are no significant differences between the gender of the respondents and their responses on pre-service training programme on computer science.
- ✓ There are no significant differences between the marital status of the respondents and their responses on pre-service training programme on computer science.
- ✓ There are no significant differences between the family type of the respondents and their responses on pre-service training programme on computer science.

VII. DISCUSSION AND CONCLUSION

In this study, gender does not show any impact on the effectiveness of the pre-service training programme. The influence of gender is generally taken onto account, were the sample size comprises of an even number of male and female. As far as this study is concerned, around 80 % of respondents were female and so there was no impact in relation to gender on the feedback of the training programme. On the variable of the marital status, this study comprised of an equal number of respondents, married and unmarried. In spite of this fact, this variable of marital status did not show much influence, as all the participants had given a uniform opinion. The overall conclusion drawn from this study was that, the personal variables of the respondents viz; gender, marital status and type of family, did not influence overall effectiveness of the training programme. Hence, 69.4% of the respondents felt that the pre-service training programmes on computer science are very useful and effective for their academic teaching and problem aspects in computer science in school education systematically. Only 3.5% of the respondents given their feedback of the pre-service training programme to them on computer science neither effective not ineffective in the study area.

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