UDK:005.96

Training Based on Sequential Need Analysis Process in a Public Sector Organization

Dr.C.Vijayabanu
Associate Professor, School of Management, SASTRA University, Thanjavur, Tamil Nadu, India,vijayabanu@mba.sastra.edu

C.Therasa
Research Scholar, School of Management, SASTRA University, Thanjavur, Tamil Nadu, India

Abstract

Training is very vital for any organization that aims at succeeding. Training assists in eliminating weaknesses and strengthening the skill and knowledge level. A well trained employee becomes more informed about the job and gets higher level of satisfaction. Training facilitate to hone the competency level of employees and training need analysis helps to identify the performance gap and assure the relevance of training. The success of any organization depends on appropriate use of human assets available in the organization. All the other assets could only be supplementary human to assets. The current study analyzes the importance of sequential process of pre training arrangements, need identification methods and its operational utility in public sector organization. The Sampling technique followed is 'programme based' and not on 'individual based'. The primary data have been collected from employees. supervisors and executives were analyzed using various statistical tools like Chi square ,regression analysis and weighted averages. It is concluded from study that, proper need identification is the base for selecting right participants to training. The training coordinators are the link between the planning and execution part of training and receive the feedback information across the organization. Even though the training methods differ, its efficiency depends on the technique of training and trainers. The adoption of right training techniques makes the participants to attain their individual, group and organizational needs.

Key words: *Training, Programme, Organization, performance, sequential process JEL Classification: M53*

1. INTRODUCTION

The workers or employees in an or for an organization are now being considered as human asset even though different terms like 'staff" 'manpower', 'personnel', etc. are still in currency. The emerging trend is to treat them as 'human asset' or 'human resources'. The success of any organization depends on appropriate use of human assets available in the organization. All the other assets could only be supplementary human to assets . Towards augmenting the human resources and to cope with the changes –both internal and external the organization necessarily to concentrate on developing the ability, skills and wisdom of its workforce. For the development of human asset, 'training' becomes the base [21].

It is of paramount importance to any organization to strive for the development of its employees as esteemed members of the organizational management team. For the development of the human asset training becomes the base. Training is a tool to attain individual, organizational needs related to the jobs undertaken and is also intended to improve the work culture of the group involved in a group task. [14].in his study points out that the training effectiveness is dependent on two considerations (1) Trainers are fully responsible for training and if the employees do not show results, the trainer should be held accountable. (2) Training effectiveness depends on the kind of atmosphere and culture that is prevalent back at home. The Bharat Heavy Electricals Limited, (BHEL) Tiruchirappalli the case study unit, is a public sector unit and it has an inbuilt training named as Human Resource Development Centre (HRDC). The BHEL Tiruchirappalli unit has nine thousand five hundred employees in its fold and a series of need based training programme are organized for all levels employees, supervisors and executives. The study has the following objective.

To evaluate the pre training arrangements, need identification methods and its operational utility.

The Sampling technique followed is 'programme based' and not on 'individual based'.10 employee development programmes, 16 supervisory development programmes, were selected giving due consideration for different types of programmes. Using cluster

sampling all the participants in the programmes were taken for enumeration. It is a case study with more than one method of data collection. The questionnaire for pre and post training evaluation along with pre and post written test based on the syllabus of training have been collected from 250 employees and 200 supervisors for the sampled programmes. Opinions have been collected from 200 executives by a separate set of post training evaluation questionnaire. Using a modified questionnaire, opinions have been collected from 25 training coordinators. These training coordinators are the link between the training centre and various departments of the organization.

Several appropriate tools have been used to analyse the primary data collected. Analysis of variance one way has been used to study the impact of training on the basis of age and qualification. The chi-square test has been used to conclude whether the preference of the participants regarding training need identification methods, various skills developed by training, teaching methods, whether expectations from the programmes are independent or not. The regressions analysis have been used to test whether the training techniques used by the organization create an impact on the self, group and organizational needs attained by the training. Regression analysis determine the relationship between independent variables (training techniques) and dependent variable (self, organization and group needs) [20]. Multiple regression is technique used to estimate the simultaneous impact various variable towards independent variable. The cronbach alpha that determines the level of reliability is 0.808.

2. REVIEW OF EARLIER STUDIES

The purpose of this study was to compare the influences of the classroom training and the structured on-the-job training (S-OJT) approaches on trainees' self-efficacy to achieve the training outcomes among bankers in Taiwan. , the study examined whether trainees with the structured on-the-job training approach and with the classroom training approach differed in their self-assessment of self-efficacy to achieve training outcomes [11]. The objective of need based training is to determine the competence and skill level towards job performance and understand the gap which will also be a basic information for performance appraisal [5].

In the last two decades, organizations have increasingly used computer-based instruction as a method to deliver training to employees and instruction to students [7]. The e-learning market reached $50 billion in 2005 and is expected to double by 2010. A number of different evaluation models can and have been used to measure effectiveness and worth of programs. However, the literature indicates the evaluation of e-learning may need to develop new models for evaluation. The purpose of this study is to develop a framework to enhance the process of e-learning evaluation in organizations. Evaluation Checklist (ELEC)--which was developed and applied in this dissertation--is based on Scriven's Key Evaluation.

Design of the research was a mixed study design. The quantitative results were pre and post measurements

that were taken to determine if the 10-week training intervention was effective at improving a leader's emotional intelligence, hence increasing the leader's emotional intelligence functioning [6]. The leaders participating in the study were from functional areas within the corporation that included engineering, finance, operations, sales, communications, and human resources. The results of the research proved the hypothesis that the overall emotional intelligence was statistically significantly improved through the training of emotional intelligence

Training expense represents a substantial investment in training resource. This dissertation details research on the business impact of a leadership-training program using the return on investment (ROI) methodology. The primary objective of this study was the determination if there were positive financial impacts of a leadership-training program on a business and to present a verifiable and valid, substantial ROI with meaningfulness [18].

In the context of developing supervisory employee performance management skills for a sample of 87 trainees from 75 units of a national restaurant chain, the impact of the supplements was assessed in a quasi-experimental design framework [15]. Performance and attitudinal outcomes were examined across four training designs: (1) classroom training only (control); (2) classroom training with self-coaching; (3) classroom training with multisource feedback; and (4) classroom training with self-coaching and multisource feedback.

The purpose of this case study was to develop an understanding of the experiences of six employees with the Employee Assistance Program (EAP) of their employer organization [16]. The study sought to give voice to these employees who accessed the EAP in order to understand the factors they associated with the effectiveness and limitations of the program, as well as to offer some suggestions for improving the effectiveness of the program.

In this study, the researcher examined the effectiveness of e-learning in the industrial setting at Level 3 based upon the Kirkpatrick model and compared e-learning to traditional classroom learning [26]. An experimental research study was conducted at a Midwestern manufacturing facility with the researcher designing, developing, and evaluating an OSHA safety training program.

Walsh, Maureen, Using a qualitative approach, the researcher sought to identify components of the job training from the perspective of collaborating employers only The purpose of this study is to describe the problems and issues experienced by collaborating employers with the intent of informing school program coordinators to improve their transition programs for the emotionally disturbed teenager.

Bostain, Nancy S. This study evaluated the effectiveness of a behaviour modelling management development training program in an industry setting. Effectiveness was determined by assessing the transfer skills training to the job as observed by the trainees, their supervisors, and their subordinates, 7 months after

training. A post-test-only design was used to control for participant sensitization.

The present study was conducted in order to determine the impact of a management development program on organizational performance. Specifically, the study evaluated the influence of management relations on union grievance filing rates [25].

This study investigated the extent that quality improvement training had been implemented, evaluated and reinforced through the performance appraisal process in the 221 member organizations of the Arizona Quality Alliance, a consortium of quality improvement professionals [8].

In his work, concentrated about role of management training and development in select corporate sector industries of Tami lnadu with special reference to Chennai metropolitan city [21].

Human resource Development in Public Enterprise dealt with conceptual study of Human Resource Development, organizational development, performance appraisal and carrier development of Steel Authority of India Limited [2].

In his work-Evaluation methodology for training based on various research findings of Food and Agricultural Organizations of United Nations, recommended systematic evaluation for 'agricultural training' programmes organized by agriculture extension agencies [3].

In their study, evaluating management training and development, dealt with pre-training evaluation. The study includes evaluation of training context, input evaluation, post training evaluation, transfer of learning and job improvement. The study suggested for job evaluation as a follow up, after six months to one year . All these aspects have been evaluated for the executives training programme organized in the 'Administrative Staff College', Hyderabad which brings out the impact of institutional programmes [22].

Stresses the need for behavioural inputs in any training programme organized for supervisors [9].

Sees a shift from knowledge to attitude as the main objective of training. He identifies three areas of training technical, skills and knowledge. He suggests that the emphasis on these three must vary according to the levels of the employees [1].

Recommends that training programmes should focus on corporate planning, organizational development and personnel management [18].

Suggests that the Organizational Development (OD) technique can be more useful for training employees in government. The training programmes of the government are designed to inculcate capabilities to introduce change and review the environment [19].

In his study points out that the training effectiveness is dependent on two considerations (1) Trainers are fully responsible for training and if the employees do not show results, the trainer should be held accountable.(2) Training effectiveness depends on the kind of atmosphere and culture that is prevalent back at home [14].

Suggest that structured excises seem to offer greater scope in India. Such techniques as T-group,

management games assume a minimum level of intellectual competence in the participants. The trainer therefore has the additional responsibility of selecting right methodology [17].

3. PRE - TRAINING ARRANGEMENT PROCESS

A systematic pre training arrangement process is absolutely necessary for the success of any training programme. It is of utmost importance that the pre training arrangement should be planned and arranged in a sequential order.

This process will consist of various elements like training need identification, selection of right participants and imparting training through an appropriate method with proper application of training techniques. The training need identification and selection of right participants are the two interdependent elements of the 'planning parts'. The adoption of suitable methods and appropriate techniques belong to the 'execution part'.

The two parts of the training process are connected with Training Co-ordinators. This can be shown in Figure: 1.
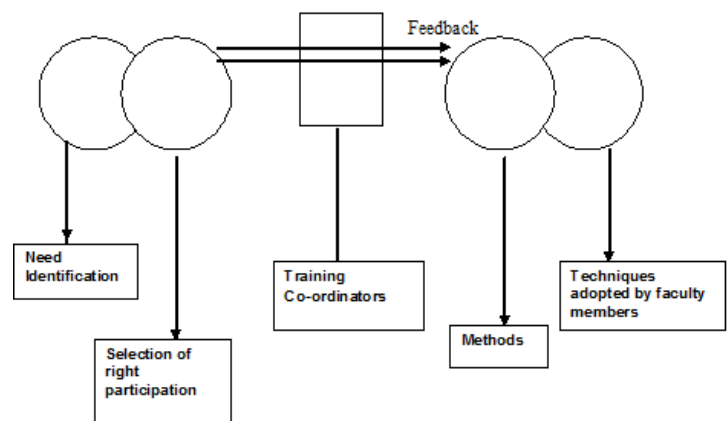

Figure 1. Pre- training arrangement process

Any lapse or failure in any one part of the process is bound to affect the other part also. The training need identification helps to find out the 'actual needs' of training. By proper identification of the training needs mere 'course attending' by participants and their simple 'relaxation from job' could be eliminated that is to say the participants are to involve themselves totally in the programme. Figure:2 shows the changes which cause training need identification in an organization.

How does training need arise?
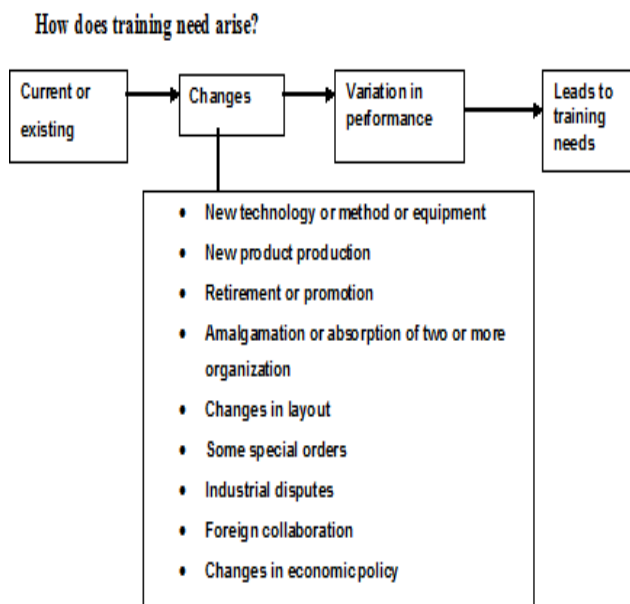
Figure 2. The changes which cause training need identification in an organization

Training and development is a continuous process. In BHEL there is a system of need identification to pre determine and identify the training needs-which includes identifying the training and development programme and implementing appropriate methods and techniques.

Finally evaluating it immediately after the training programme. Thus the training programme organized in BHEL is an ongoing process. (Figure:3).
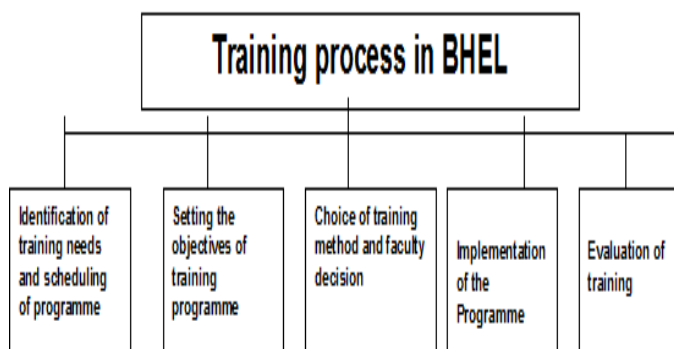
Figure 3. Training process

The training department HRDC in consultation with training coordinators and section heads identify the specific areas in which supervisory and lower level employees needed to be trained. In turn HRDC will design specific programme according to their levels. The method of training need identification is based on two purposes.

I .To solve existing problems

ii. To face the future problems by filling the gap between what is needed of them and what they are.

Four methods of training need identifications are followed in Tiruchirappalli for employees and supervisors.

Performance analysis

Before the training plan, the performance of various levels of workforce is studied. The performance of each employee is compared with 'master worker' who is endorsed as a standard worker.

The other indices which are applied to study the performance are absenteeism records, number of re-works, number of complaints, discipline maintained in shop floor, relationship with co worker and superior.

By studying the above records, the section head nominated employees who require training to programmes like employee and family welfare, communication skills, industrial relations and product familiarization.

Job Analysis

The various aspects of job are analysed in a detailed manner to note the attainment of the incumbent.

The introductions of any new system of machinery, acceptance of special orders bring a need to modify the behaviour, attitude and knowledge level.

Computer Numerical Control (CNC) training ISO 9000 standards, implementation of ERP, Knowledge Management System etc. arise due to new requirements of job.

Observation

Direct observation is less biased and it is also suitable for confidential matters, the changes can be observed by supervisors and section heads and they could recommend suitable training, for the employees observed.

Though this process may not be useful for urgent or special jobs, what is actually happening in the organization is known from this method.

Individual Interview

It is also one of the important need identification methods. Having an interview with any senior person, master technician, section heads and other employees individually helps to identify overall satisfaction level in job and their necessity for various development programmes.

Interview may be structured or unstructured. Nothing but casual conversation helps to identify the gap and the necessity for training.

The appropriateness regarding the method are identified from the executives and training co-ordinators. Opinion has been collected from 200 executives by random sampling to find out the similarity of views. To present the evaluation to be more specific, each respondent has been asked to mark his choices of preference for all the methods and the results with weightage scores are given in Table 1.

Table 1. Opinion of executives and training coordinators – on training need identification method

Method	Opinion of executives						Opinion of training coordinators					
	I	II	III	IV	Weighted Scores	Rank		II	III	IV	Weighted scores	Rank
Job Analysis	4	68	50	30	546	2	3	9	3	10	55	3
Performance Analysis	76	46	48	30	568	1	14	1	6	4	75	1
Observation	36	40	66	58	454	3	5	11	6	3	68	2
Individual interview	36	46	36	82	436	4	3	4	10	8	52	4

Weighted scores consider all the preferences of respondents with due importance and from the weighted scores, it could be inferred that performance analysis ranks the first choice. Job analysis the second choice and the third choice is observation followed and individual interview is the fourth choice. The role of training co-ordinators assumes a greater responsibility. They are the connecting link between various departments and the training centre. But the training co-ordinators have different opinions regarding the method of identification of training needs. The opinion collected from 25 training co-ordinators shows the following result. Opinion collected from the training co-ordinators differ from the opinion of the executives. So the researcher has collected the opinion from actual participants (i.e.) trainees to find out whether the actual needs as expected by them have been fulfilled by the training.

4. SELECTION OF RIGHT PARTICIPANTS

The selection of right participants to the programme is much important and the participants may have differing perceptions and expectations regarding their participation in the programmes. This could be ascertained and analyzed only through the opinion of participants.

To analyze the perceptions of the employees, the information is collected from 250 employees, who have attended various sample programmes. Reasons for the participation or their expectation from the programme were given and the employees were asked to rank them according to their own preferences. Similarly the reasons for participation to the programme are obtained from 200 supervisors. The supervisors have been asked to rank their expectation from the programmes according to their preference.

Table 2. Opinion of employees and supervisors regarding reason for their participation

Reason for their participation	Opinion of employees		Opinion of supervisors	
	Weighted average	Rank	Weighted scores	Rank
To increase the efficiency in job	996	2	797	2
To increase the productivity	893	3	713	3
To gain self confidence	1041	1	850	1
To overcome minor and major deficiencies within them and towards job	892	4	656	4
To be disciplined and knowing the code of conduct of organization	708	5	583	6
To be motivated to do the new job and adhering themselves to changed environment	691	6	601	5
Chi-square value	Overall Chi-square value : 313.7 DF :25 P. Value : .000		Overall Chi- square : 242.6 DF : 25 P value :0.000	

What is expected of the training as evidenced by the participants is an interesting area of the study. Different individuals wished to undergo the training with different expectations or perceptions. What these respondents expect from the training may be called their reasons for undergoing the training. It is proposed to examine whether the extent of preference for training is independent of the reasons for participation. In other words, the proportion of individuals preferring a particular reason for participation is the same for each kind of reason.

Chi square test of independence has been used and the results are also given in the table. The Chi square test statistic value is 313.7, which is highly significant for employee's opinion. So the extent of preference is not independent of the reason for participation. Hence it may be concluded that employees have greater

preference for some kind of reason for participation in training.

The number of supervisors who give different grades or ranks of preference for each reason for participation is also found out and using this data, Chi- squares test of independence is carried out and the Chi- squares statistic is 242.6 which is highly significant. So the ranking of the preference is not independent of the reason for participation and the results are given in table 3.

The opinion of the executives on the participation of training is also collected. Unlike employees and supervisors, the executives' level has a different objective and they are the actual gains from the programme. Opinion has been received from 200 executives after training and their ranking of actual gains of the programme is given in table 3.

Table 3. Opinion of Executives regarding actual gains from the Programme

Reason	Weighted scores	Rank	Chi-square
Acquisition of new knowledge	1082	1	over all Chi-square : 671.3 P value :0.00 DF : 36
Better understanding of different management function	994	2	
Improvement to work with different persons	970	3	
Relaxation from routine job	522	7	
Awareness of social economic policies	686	5	
Self promotional aspect	608	6	
Personality development	730	4	

The responses of the individual executives after training indicate which aspect they rank as their gain and that is judged by the ranks. In order to examine whether the proportion of respondents giving various ranks are identical and the same for each type of the gain they achieved due to training, the Chi- square test for independence between the type of gain and the ranking is used and the results are also given in the table 3.

From the table, it is observed that the Chi-square test statistical value is 671.3 which is highly significant. Hence the null hypothesis of independence between the two is rejected. It implies that the ranking depends upon the type of gain they achieved.

5. WILLINGNESS TO ATTEND THE PROGRAMME

The willingness to attend the programme by participants, which in turn may affect knowledge acquisition, skill development, attitudinal and behavioral modification or changes.

The willingness of the individuals that is trainees is induced by self-motivation, controlling officer and section heads. The rate of willingness created in the participants in the opinion of the training coordinators has been assessed. The roles of training coordinators in training need identification are more important in BHEL, as they serve as the

connecting link between the training centre and various departments.

From the opinion expressed by the training coordinators, it is known that 34 percent of individuals are willing to attend the training to improve their knowledge, skill and self-motivation. 66 percent of the controlling officers and the section head are inducing the persons to attend the training by identifying the gaps in their performance level. This proves that the nomination of the participants to the programme is at the initiative of employees themselves and it is also need based. This also proves that right participants are selected for the programme. The feedback or response between the training centre and various departments becomes vital. The actual needs of the job or work environment should be communicated to the training centre. Similarly the actual position of the training programmes conducted, whether it suits to organizational objectives and changes in job, must be communicated. The level of the feedback between HRDC and other departments in the opinion of the training coordinators has been assessed. About 60 percent of the training coordinators give the opinion that feedback response between HRDC and other department is good. 40 percent of training coordinators hold the adverse view, 80 percent of the training coordinators is fully satisfied by the facilities

offered by HRDC; 20 percent has rated fair about facilities.

6. TEACHING METHODS

Training depends to a large extent on teaching and teaching in turn depends upon various methods of instruction. Instruction by the trainer can be made through different methods; media and the effectiveness of training depend upon the most suitable one for a particular programme.

The trainer or instructor must find the best combination of various teaching methods that meet the needs or objectives of the programme. So the right selection of teaching method becomes more essential for effective training. Some of the important teaching methods followed in BHEL training programme and their features are given below:

Lecture method

Lecturer method is one of the common method and the best method as preferred by participants for passing on information from a person to a group.

It is also a traditional method and best suited for non-skill training. The value of lecturer is increased by diagrams, use of black boards, charts and teaching devices and it is used as a teaching method for all the programmes conducted at all levels in BHEL.

Group discussions

This method helps all the participants to talk freely and discuss in an informal environment the various problems they face in day to day industrial work. Individual trainees have an opportunity to participate, accept the views of other trainees, group leader and they will become more responsible persons, since the problems are viewed in group angle and not from individual angle.

This method develops a concept of group dynamism. All training programmes in BHEL have both formal and informal group discussions aided with lecturers.

Home work by exercise

Homework assignments and exercise are needed for some type of training. Transactional analysis, Stress management, Counselling, Personality development, Employee and family welfare etc.., help outside reading and this forms a base for next day class room discussions. But this method may be much effective when it is checked and discussed by the instructor on the next day.

Printed materials supplied for most of the training assist this type of teaching method.

Visual aids

A wide variety of visual aids are available to the trainer. It is used situation ally, particularly to teach technical subjects. It helps the trainees to understand what the trainer wanted to teach.

Short movies, slides, film strips, opaque projectors, exploded drawings and charts are used to show the specific uses and operations of a product and other aspects.

This method of teaching is widely used for programmes like Industrial safety, 500 MW Boiler technology, product familiarization, communication skill.

Demonstration

The correct way of doing a thing is demonstrated along with lecturer and it is a very advantageous method, because the teaching by seeing and telling will have a better effect than learning by lecturer alone.

This method is used in programmes like. 'First aid' to fire fighting and Industrial safety precautions measures. It is important that the person who demonstrates must be clear in his role.

Case study

This method is used widely for almost all types of training in BHEL. Various cases met in the organization are described or cases are selected from various books and journals then printed and given as training materials.

Trainers explain the case situation and ask the opinion and suggested from trainees. This method has the advantages of lecture cum group discussion.

Games

Now-a-days organizations like BHEL follow 'games' as one of the teaching methods. The trainees were asked to come out of the class room and various psychological games are organized.

This helps to have group interaction, sharing of knowledge, understanding different persons and their views and whole hearted participation' for all persons is possible.

This method helps a lot to psychological, behaviour oriented programmes like Counselling, Transactional analysis, Personality development and Team building.

Table 4. The opinion of employees and their preferences to various teaching method

Method	Employees		Supervisors	
	Weighted scores	Rank	Weighted scores	Rank
Lecture	1194	1	892	3
Group discussion	1107	3	979	1
Home work	718	7	553	7
Case study	960	4	740	4
Visual aids	929	5	734	6
Demonstration	918	6	738	5
Games	1174	2	964	2
Over all Chi-square	418.6		356.3	
P value	0.0000		0.0000	

7. TRAINING TECHNIQUES

The success of training depends to a large extent on the 'presentation'. The 'presentation' means the actual training techniques. The learning ability of individuals differs from person to person. The ability to learn and learning depends upon various techniques like material presentation during training, study environment and motivation during training. The learning during training will have a negative result, when the material presented becomes more difficult or not related to the training. Fatigue or boredom during the programme also affects the performance.

Kenneth Nexley and Gary Latham identify three points in motivating trainees during learning. They are:

i.   Learning objectives of the programmes should be conveyed at the outset and at various strategic points throughout the programme.

ii.   Goals should be difficult enough to adequately challenge the trainees and thus allow them to derive satisfaction from achievement, but not so difficult as to be unattainable.

iii.   The final goal programme completion should be supplemented with sub-goals to maintain feelings of accomplishment and encourage anticipation of the next hurdle.

The liberalization of economic policies, trend towards globalization of business environment, increases the pressure on organization to achieve excellence in products, services and maintain international standards. So it becomes essential to gear up the employees with a variety of techniques. This 'technique excellence' can be achieved by improving the training techniques and its development. The training technique depends on the role of trainers. The trainers in the BHEL training centre have two distinct types controlled by the programme co-ordinators.

1.   They are,

(i)   Internal faculty

(ii)   External faculty.

Programme co-ordinators are permanent workforce of BHEL. Their functions are classified as the following: Infrastructural work-consists of preparing and communicating time table of programmes to various departments to get nomination of participation for the programme, selecting right faculty from the faculty directory and internal faculties from various departments other than HRDC, allocating them various subjects, sessions according to their experience, qualification and other abilities. Based on the nomination received arrangements like class room facilities, materials including files, pen and refreshers are provided. Academic or learning functions include developing programme objective, formulating course content, methodologies for teaching in accordance with the needs and objectives of the organization.

Training is not the responsibility of training department alone. All other higher level officials must take adequate interest, associate themselves with HRDC as faculty member, as a co-ordinator or in the preparation of course materials, in evaluation aspect. Though the faculty is selected within the organization, he must be a distinguished personality with specialized knowledge in the subject. The faculty must identify himself with the organizational objectives. The faculty is more concerned with techniques of training and its efficiency. The opinion of trainees regarding teaching is taken for consideration by means of 'training technique' evaluation. The opinions were collected from the participants at the end of the programme. The contribution of faculty, materials presented and other teaching apparatus used, constitute the techniques of training which results in:

(i)   Acquiring or sharpening the capabilities to perform various tasks or functions.

(ii)   Develop general individual capabilities for development purpose.

(iii)   Develop group and organizational culture.

The impact of training is influenced by the extent as well as the type of training technique of the material intended for imparting training. The effectiveness and quality of training technique is best adjusted by the respondents who underwent training. The evaluation of the training of the training technique by the employees has been executed by five different components such as:

(i)   Material presented related to their job functions.

(ii)   Material presented related to solve the day to day problems.

(iii)   Rating regarding the faculty and over all teaching techniques.

(iv)   Visual aids and other teaching apparatus evaluation.

(v)   Whether programme objective is consistent with organizational objective.

The responses of the employees have been recorded on a five point scale such as Excellent, Good, Average, Below Average and Poor. For each of the above aspects the scores have been recorded and the aggregate of all these five aspects put together gives the training technique evaluation scores as adjudged by the individual employee. Now it is proposed to examine the impact of as evidenced by the three components namely,

(i)   Self goals

(ii)   Organizational goal

(iii)   Group dynamism.

These are the three basic components of training goals. The efficacy of training can be concluded when the above three needs that is individual, organization and group needs are fulfilled. The three components have

something to do with the training technique evaluation scores. For this purpose the multiple regression analysis has been used in the study, by taking the aggregate training technique evaluation (Y) as the dependent variable and hence pre and post scores of Self goals (X1) which includes (Attitude towards training, Level of confidence-training for development, Level of responsibility & accountability, Overall satisfaction in work). Organizational goals(X2) which includes (Creative suggestion to work, To do present

work independently, To plan about future with vision, Timely organizational decision within their level), Group dynamism (X3) which includes (Sharing knowledge with co-worker, Role relationship, Team spirit, Mutual settlement, avoidances of grievances and disputes, Counselling skills, Individual interest to promote and coincide with group interest) as the explanatory variables or regresses. The results are provided in the table 5 and it is a post training evaluation.

Table 5. The employees opinion regarding training technique evaluation

Predictor variables	Co-efficient	Standard error	Student's 't'	P
Constant	17.656	0.596360	29.61	0.0000
X1	-0.034868	0.060525	-0.58	0.5724
X2	0.010389	0.072451	0.14	0.8575
X3	0.11082	0.067472	1.64	0.0976

Cases included	: 250		
Degrees of freedom	: 246	P value 0.4261	
Overall F	: 0.969		
Adjusted R squared	: -0.0004		
R squared	: 0.0117		
RESID : Mean square	: 4.140		

Predictor variables   Co-efficient   Standard error
It may be observed that R squared value which is the co-efficient of multiple determination is very small 0.0117.The corresponding 'F' statistic value is equal to 0.969, which is not at all significant. Hence it can be observed that these explanatory variable X1, X2, X3 have no influence on the training technique evaluation scores. It can also be observed that all the individual regression co-efficient of the explanatory variables X1,X2,X3 are insignificant, since the corresponding 't' statistic value is all insignificant as noted in the table 5. This proves that whatever may be the training programme, whether the training is to promote individual, group or organization aspect, the training

technique concepts must be concentrated and its importance must be know by the trainer. For the category of supervisor also the multiple regression analysis is carried out with a view to examine the influence of the scores on self goals (X1), organizational goals (X2) and group dynamism (X3) on the training technique evaluation scores (Y) which is considered to be the dependent variable. The variables X1, X2, X3 denote the difference between the pre and post scores and are treated as independent variables. The results of the multiple regression analysis are furnished in table :6.

Table 6. The opinion of supervisors regarding training techniq

Predictor variables	Co-efficient	Standard error	Student's 't'	P
Constant	16.940	0.72981	23.21	0.0000
X1	0.078524	0.11440	0.69	0.5005
X2	0.050651	0.15072	0.34	0.7341
X3	0.047857	0.099180	0.48	0.6353

Cases included	: 200	
Degrees of freedom	: 196	P value 0.8936
Overall F	: 0.275	
Adjusted R squared	: -0.0111	
R squared	: 0.0042	
RESID : Mean square	: 8.299	

In the case also the R squared value 0.0042 which is very small. Also the 'F' statistic value is highly not significant. Hence it may be concluded that these variables do not exercise any influence on the training technique evaluation scores. Also the individual regression co-efficient are all insignificant there by implying that these variables are not related to dependent variable Y. This determines that training

technique irrespective of types of training, level of work force whether supervisors or employees, the training technique must be concentrated and formulated according to the organizational environment is the concept derived by the analysis.

8. TRAINING TECHNIQUE EVALUATION – ON THE BASIS OF THE AGE

The employees are in different and so also the supervisors. With a view to examining the impact of training on the different age groups, it is proposed to measure the effectiveness of training based on the basis of five indicators or components mentioned previously. For each of these components, the responses were obtained and the scores have been awarded on the basis of the responses. The aggregate of these scores gives the training technique evaluation scores of every individual. The entire set of sampled employees have been post stratified on the basis of age in three groups, namely A, B, C below 40, 40-50 and above 50 respectively. In order to examine whether there is any significant difference between the mean evaluation scores of the three age groups, the analysis of variance one way classification procedure is used. The results of analysis of analysis are in table 7.

Table 7. The opinion of employees on training techniques evaluation on the basis of age

Variable	Mean		Sample size	Group variance	
A	18.54		24	2.868	
B	17.89		180	4.982	
C	18.17		46	5.492	
Total	18.00		250		
Source	**DF**	**SS**	**MS**	**F**	**P**
Between	2	10.62	5.311	1.09	0.3393
Within	247	1210.0	4.881		
Total	249	1221.0			
Bartlett's Test of Equal Variances	**Chi-Square**		**DF**	**P**	
	3.12		2	0.2103	

Initially the Bartlett's test for equality of variances shows that there is no significant between the variances of the three groups. The F statistic calculated is 1.09 and the corresponding P value is 0.3393, which shows that there is no significant difference at 1% level of significance between the means. Therefore it may be concluded that may be concluded that mean evaluation scores do not differ significantly among the three among the three different age groups of the employees. This proves that irrespective of the age difference, all employees have a strong opinion that training technique has its impact on training efficacy.

In the case of supervisors also the training technique evaluation scores on the basis of the above mentioned five components have been obtained and the observations have been post stratified on the basis of the basis of the three different age groups, as in the case of employees. Here also analysis of variance one way classification method has been used to examine whether the mean scores differ significantly among the three age groups. The results are given in table 8.

Table 8. Opinion of supervisors on training technique evaluation on the basis of age

Variable	Mean		Sample size		Group variance
A	16.80		10		7.067
B	17.23		114		8.160
C	17.92		76		6.927
Total	17.47		200		
Source	**DF**	**SS**	**MS**	**F**	**P**
Between	2	26.62	13.31	1.74	0.1756
Within	197	1505.0	7.641		
Total	199	1532.0			
Bartlett's test of equal variances	**Chi-square**	**DF**	**P**		
	0.62	**2**	**0.7348**		

From the above it is seen that there is homogeneity of variances for the three different age groups, as indicated by Bartlett's test for homogeneity of variances. The "F" statistic in this case 1.74 and the 'P' value is 0.1756 which is larger than 1 %. Hence there is no significant difference among the groups with regard to mean scores of the training evaluation. This states that in supervisory level also the trainees irrespective of their age difference have accepted that the effectiveness of training depends upon effective training techniques. From the analysis of pre-training

arrangement process in BHEL, it is understood that the proper need identification is the base for selecting right participants. The training coordinators are the link between the planning and execution part of training and receive the feedback information. Even though the training methods differ, its efficiency depends on the technique of training and trainers. The adoption of right training techniques makes the participants to attain their individual, group and organizational needs. Their views do not differ with the age or the level of placement.

9. CONCLUSION

From the analysis of pre-training arrangement process in BHEL, it is understood that the proper need identification is the base for selecting right participants. The training coordinators are the link between the planning and execution part of training and receive the feedback information. Even though the training methods differ, its efficiency depends on the technique of training and trainers. The adoption of right training techniques makes the participants to attain their individual, group and organizational needs. Their views do not differ with the age or the level of placement. Pre-training arrangement process that explains the interdependent elements of 'planning part' consisting of training need identification and selection of right participants, the 'execution part' which comprises of suitable methods and appropriate techniques. The two parts of training process are linked by training coordinators. These sequential arrangements determined the level transfer of training to actual work and success of the training.

10. REFERENCES

[1] Bhatia, S.K.,1981 Trends in Training and Development, Indian Journal of Training and Development, 11(4):.142-145.

[2] Bansal,M.P.,1991.HumanResource development in Public Enterprises, RBSA Publisher,Jaipur.

[3] Bhatnagar, O.P., 1987.Evaluation Methodology for Training-Theory and Practice, Oxford IBH Publishing Company Private Limited, New Delhi.

[4] Bostain, Nancy S ,2000.Evaluation of a management development behavior modeling training program in industry: Transfer of training., Walden University, Minneapolis.

[5] Chidambaram Vijayabanu, Ramachandran, A., Tevar, S.S. 2013.A study on efficacy of induction training programme in Indian Railways using factor analysis, Business: Theory and Practice , 14(2):140-146.

[6] Eichmann, Krissy, 2009.The effectiveness of training to improve the emotional intelligence of leaders,TUI University California.

[7] Guidy-Oulai,Anne-Marie,2009,Thedevelopment and application of a checklist for evaluating e-learning in organizations ,Western Michigan University.

[8] Geiss, Caddis Whitecraft ,1995.Characteristics and conditions of quality improvement training and evaluation programs in Arizona: A descriptive study, Arizona State University.

[9] Ghosh, M.K.,1984. Balancing of Training Inputs for the First Line Supervisors, Indian Journal of Training and Development, 14(4):153-157.

[10] George, J. Milkovich & John, W., Boardreau,1988. Personnel Human Resource Management – A Diagnostic Approach, 5th edition, Business Publications, pp. 533- 536.

[11] Huang, Wen Rou,2010. A comparison of the influences of different training approaches on trainees' perceptions of self-efficacy to achieve training outcomes among bankers in Taiwan, The Ohio State University.

[12] Jennings, Miranda E., 2007. Adult learning in a workplace setting: Key factors associated with the development of performance and efficacy. University of Connecticut.

[13] Kules, Jack L., 2008. Examining the impact of training on business results through post-training ROI, North Central University.

[14] Mehta,K.K.,1970. Problems of Supervisory and Managerial Training, Indian Management,9(11):9-14.

[15] Tews, Michael Joseph,2006. Enhancing the effectiveness of interpersonal skills training: examining the impact of post-training supplements in the applied work environment, Cornell University .

[16] Nofield, Holly A.2006. Exploring the effectiveness of employee assistance programs: A case study of the employee assistance program of a Saskatchewan organization,, M.H.R.D., The University of Regina (Canada).

[17] Prahlad,C.K.Thiagarajan, K.M., 1971.Human Relations Training in India,Indian Journal of Training and Development Review, 1(6): 19-23.

[18] Sinivasan,G.,1977. Executive Development in India- A futuristic profile, ASCI Journal of Management, 6(2), 1977 , pp.136-146.

[19] Saxena, A.P., 1973.OD Training in Government Management in Government, 5(3):209- 217.

[20] Sykes A. O. (1993) . An Introduction to Regression Analysis , Law School, University of Chicago.

[21] Varadarajan,R., 1991.The Role of Management Training and Development in Corporate,sector in Tamilnadu, Madurai Kamaraj University

[22] Virmani, B.R., and Premila Seth,1985.Evaluating Management Training and Development, Vision Books, New Delhi

[23] Vijayabanu, C. , Amudha, R. 2012.A study on efficacy of employee training: Review of literature, Business: Theory and Practice ,13(3): 275-282.

[24] Walsh, Maureen 2003.,Employers' perceptions of job-training programs in Pennsylvania for high school students with emotional disturbances: A phenomenological study, Marywood University.

[25] Wyszynski, Tori Lin,1998. Management development and its relationship to organizational performance: A new approach to evaluation, California School of Professional Psychology - Los Angeles.

[26] Yaw, Dorothy 2005.Carole An evaluation of e learning in industry at Level Three based upon the Kirkpatrick model ,Indiana State University.

Obuka na Osnovu Uzastopne Analize Potreba u Organizaciji iz Javnog Sektora

Dr.C.Vijayabanu, C.Therasa

Rezime

Obuka je veoma važna za svaku organizaciju koja želi da bude uspešna. Obuka pomaže u uklanjanju slabosti i jačanju nivoa veština i znanja. Dobro obučen zaposleni postaje upoznatiji sa poslovima i ima viši nivo zadovoljstva. Obuka olakšava da se izoštri nivo kompetencije zaposlenih, a obuka analize potreba pomaže u identifikaciji raskoraka u performansama i obezbeđivanju relevantnosti obuke. Uspeh svake organizacije zavisi od adekvatne upotrebe ljudskih vrednosti dostupnih u organizaciji. Sve druge vrednosti mogu da budu samo dopuna ljudskim vrednostima. Ova studija analizira značaj uzastopnog procesa dogovora pre obuke, metoda identifikacije potreba i njihove operacione upotrebe u organizaciji iz javnog sektora. Tehnika uzimanja uzoraka koja je korišćena je 'zasnovana na programu' a ne 'zasnovana na pojedincu'. Primarni podaci su sakupljeni od zaposlenih. Supervizori i direktori su analizirani pomoću različitog statističkog alata poput hi kvadrata, regresione analize i težinskih proseka. Iz studije se zaključuje da je adekvatna identifikacija potreba osnova za izbor pravih učesnika za obuku. Koordinatori obuke su veza između planiranja i izvršenja dela obuke i dobijaju povratne informacije iz cele organizacije. Iako se metodi obuke razlikuju, njihova efikasnost zavisi od tehnike obuke i predavača. Usvajanje dobrih tehnika obuke dovodi do toga da učesnici postižu svoje individualne, grupne i organizacijske potrebe.

Ključne reči *obuka, program, organizacija, performanse, uzastopni proces*