

PalArch's Journal of Archaeology of Egypt / Egyptology

"An Empirical Study On Evaluation of Leadership Development Programmes in a Government R&D Organization in India"

Vinay Kumar¹, Dr. Sandeep Shandilya², Dr. V.B. Gupta³

¹Research Scholar, School of Data Science & Forecasting, Devi Ahilya Vishwavidyalaya, Indore.

²Manglayatan University, Aligarh.

³School of Data Science & Forecasting, Devi Ahilya Vishwavidyalaya, Indore.

Vinay Kumar, Dr. Sandeep Shandilya, Dr. V.B. Gupta, An Empirical Study On Evaluation of Leadership Development Programmes in a Government R&D Organization in India, -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(10), 368-376. ISSN 1567-214x

Keywords: Council of Scientific and Industrial Research (CSIR), Human Resource Development Centre (HRDC), Leadership Development Programme (LDP), Evaluation of training

Abstract

The Council of Scientific & Industrial Research (CSIR) in the country has been entrusted to look after the scientific and industrial research in the country. It is beyond doubt that this organization has played a significant role in placing India on the world map of Industrial and Scientific research. Quite understandable that to sustain on an international level in such a competitive area requires tremendous efforts and planning supported by proper vision and mission. It needs to be appropriately supplemented by proper training efforts. It is for that Human Resource Development Centre (HRDC) of CSIR relentlessly works for. CSIR-HRDC conducts various types of training programs including much-cherished Leadership Development Programme (LDP). The current study focuses on LDP of CSIR-HRDC. A two-stage analyses method is deployed for conducting the study. The first stage comprises when the participants actually received the training at CSIR-HRDC campus and stage two is concerned with participants actually implemented the learning's from the LDP at their respective workplace. Structured questionnaires as developed by CSIR-HRDC for each stage differently are administered to the participants. The first questionnaire was administered immediately after at the end of training program while second questionnaire was administered online during implementation of learning outcomes. The sample size for the first stage of the study is 135 from among the participants of 7 LDPs held during 2017-2019. At the second stage, an online survey was conducted to analyze the LDP learning outcome implementations by the 132 participants of step 1. Only 62 participants have responded to this online survey.

The Council of Scientific & Industrial Research (CSIR) is a leading public-funded R&D organization in the field of Scientific & Industrial research Under the Ministry of Science and Technology (S&T), Government of India. CSIR is known for its innovative R&D knowledge base in diverse S&T areas. Having a PAN-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centers, 3 Innovation Complexes and 5 units. To sustain on the international scene in such a competitive area requires great dedication and effort. All these efforts need to be appropriately supplemented and complemented by proper training interventions. For the same purpose, CSIR harbors Human Resource Development Centre (HRDC) as its most vibrant component.

HRDC conducts various kinds of training programs for its different cadre viz. scientific, technical, common cadre officers (Administration, Finance and Store & Purchase) and engineering service division. The robustness of training programs of HRDC reflects by the fact that more than 600 training programs were organized and more than 18000 participants were trained till 2019.

Out of these training programs, the Leadership Development Programme (LDP) of HRDC is among the flagship training programs being offered by CSIR-HRDC. The present study is concerned with the LDP of CSIR-HRDC. The study was conducted during 2017-2019 in two stages, the first one when the participants actually received the training at CSIR-HRDC campus and the second stage when the same participants implemented the learning's from the LDP at their workplace.

REVIEW OF LITERATURE

In this section, a brief review of literature conducted for purpose of the study is being presented. According to T.V. Rao, (1991) the Human Resource Development is a process in which the employees of an organization continuously and in a planned way (a) acquire or sharpen capabilities, (b) develop their capabilities as individuals and (c) develop an organizational culture where superior-subordinate relationships, teamwork, and collaboration among different sub-units contribute to the organizational wealth. In this context, Brethower and Rummel (1979), revealed in their study that the "evaluation of training means different things to different people". The training administrators responsible for training simply tend to assume that training will have a positive impact. Finally, the personnel who champion a training feel threatened by the prospect of objective evaluation of the effectiveness of the program. B.R. Virmani and Premila Seth (1985), conducted thorough research on evaluation of management training and development and, their main focus was on the methods determining both efficacy and effectiveness of management trainings. M.V Bhatawdekar (1986), has attempted to fulfill the need for evaluating training in a service industry like banking by overcoming many constraints and evolving an acceptable methodology. Bell and Kerr (1987) have said that the concept of training evaluation has received widespread recognition as beneficial but the practice of evaluation has lagged behind.

As Ostroff (1991) has commented that evaluation of the effectiveness of training programs is critical because there is no other way to know whether money on training is being spent wisely or not. Jack J Phillips (1994) presented a collection of strategies and techniques to measure the impact of training and development. A

survey by Phillips (1996) shows that the most common form of evaluation consists of trainee reactions that are written at the end of the program. Mesut Akdere and Steven W Schmidt (2007), emphasized on the importance of the learning aspect in employee orientation training. Steve Wade (2000) in his study focused on challenges for training in the new millennium. Stavrou-Costea (2005) in his study focused on the competition generated due to globalization and technological development making the need for effective training and development recognized and felt. Quesada C, Herrero P.P, Espona B (2011) in their study focused on the evaluation of the efficiency of the leadership training programme in Spain.

Sthapit A (2012) in her study considered the evaluation of induction training carried out with the help of a survey on low and mid-level managers at Nepalese developing banks. Syeda Rida-E-Fiza, Muhammad Farooq, FariaIbad Mirza, FaraRiaz & Shamas –Ud-Din (2015) in their study revealed that generally, these are bottom-line results, which are obtained through training and development in organizations. Federica Pascucci, Valerio Temperini & Sara Bartoloni (2016) in their study focused on small and medium enterprises (SMEs) with regards to the formulization of proper training programs for such enterprises. Ghosh S and Kabir M.H (2018) in their study focused on the evaluation of T&D in the banking sector of India, the study focused on the perspective of employee attitude in public vs private banks. Sulaiti K.A (2019) in his study focused on the role of training and development programs in developing the innovative capability of administrative leadership, this study was conducted in the Ministry of Culture and Sport, Doha, Qatar.

OBJECTIVES OF THE STUDY

The main objective of the study is to analyze the LDPs of CSIR-HRDC in two stages:

The first one when the participants actually get the training at CSIR-HRDC campus and second stage when the same participants implemented the learnings from the LDP at their work place. The sub-objectives of study are-

1. To analyze various factors of LDP at the stage of its offering.
2. To analyze various factors at the stage of implementation of learning outcomes.

HYPOTHESES OF THE STUDY

The declarative hypotheses corresponding to above objectives of the present study are as follows:

Hypothesis-I: At the offering stage of LDP the factors playing the most significant role must include the lucidity and contextuality of program.

Hypothesis-II: At the stage of implementation of learning outcomes, the most reflected among the executed skills must orient around leadership dominated with facilitative behavior.

RESEARCH METHODOLOGY

Following research methodology is adopted for conducting this study:

1. LDP of CSIR-HRDC is selected for the study with the sample size of 135 participants from among the participants of 7 LDPs held during 2017-2019 at the

first stage of the study, which is related to the evaluation of LDP at offering. Respondents-132

2. At the second stage, an online survey was conducted to analyze the LDP learning outcome implementations by the 132 participants of step 1. Only 62 participants have responded to this online survey.

3. Structured questionnaires for each stage are administered to the participants. The first questionnaire was administered immediately after the end of the training program while the second questionnaire was administered online during the implementation of learning outcomes. Questionnaire 1 was used for calculating scores under Leadership Development Programme Evaluation Index (LDPEI) and questionnaire 2 is used for calculating score under Leadership Development Programme Outcome Index (LDPOI).

4. The participants were asked to give their score on five points Likert scale on the following factors as per questionnaire no 1.

- i. Relevance of the Program
- ii. Quality of Program workbook, Exercise, Hand out
- iii. Delivery Process
- iv. Knowledge of Subject of Faculty
- v. Process Facilitation and Control by the Faculty
- vi. Communication Skills of the Faculty
- vii. Encouragement for participation by Faculty
- viii. Comprehensiveness of Program Contents
- ix. Clarity of Program Contents
- x. Usefulness of Program Contents
- xi. Quality of Illustrations with videos and Discussion Paper
- xii. Quality of Group Discussion as Program Contents
- xiii. Quality of Food and Stay Arrangement

5. Similarly, participants were asked to give their score on five points Likert scale on the following factors as per questionnaire no. 2

- i. Ability to provide support to underworking teams
- ii. Ability to provide directions to underworking team
- iii. Self & System Awareness
- iv. Roles & Styles of Leadership
- v. Coaching & Mentoring
- vi. Effectiveness in assessing problems and finding its solution
- vii. Effectiveness in selecting appropriate leadership style
- viii. Understanding implications and responding to the changes as leader
- ix. Building Strategic Perspective
- x. Essential Networking
- xi. Mobilizing CSIR teams for extraordinary achievements

6. The actual scores of an index named LDP Evaluation Index with respect to all the above factors is calculated in the following manner:

- i. The frequency distribution of the scores, on the scale of 1-5, given by all 132 respondents was calculated.

- ii. The scores given by individual respondents are represented by “a” and the frequency of the scores is represented by “b”.
- iii. LDPEI is equal to sum of the products of a and b. $LDPEI = \sum (a.b)$
- iv. For more clarity, a sample of calculation with respect to “Clarity of Program Contents” (Factor at step 4 above) is given in Table 1.
- v. Maximum possible score of any parameter on the LDPEI is calculated by multiplying the total number participants (132) and the maximum possible score of any factor (5) i.e. $132 \times 5 = 660$
- vi. The scores of all the thirteen parameters on LDPEI are similarly calculated and presented in the table-2 in descending order of scores.
- vii. The table obtained in step v is termed as the ranking of factors and it forms the basis of analysis of various factors. This analysis is used to test hypothesis -I.
- viii. The process mentioned above is also followed in analyzing the second questionnaire. The only difference is that the number of factors in this stage is 11 and the number of respondents is 62. The maximum score for every factor for LDPOI will obviously become $62 \times 5 = 310$ the corresponding index is named as LDPOI.
- ix. A table-3 similar to that obtained at point no. v was also developed for testing of hypothesis-II.

DATA COLLECTION, ANALYSIS AND INTERPRETATION

The primary data collected from 132 respondents through the questionnaire survey were used to calculate the scores of each factor considered in the first stage. The ranking of the factors was carried out using the score of each factor. Table-2 presents the ranking of the factors taken in LDPI. Table-2 reflects that the factors which secured the top three positions in terms of the score are- clarity of program contents (Score 595 which is 90.15% of maximum score of 660), useful of program content (score 593 which is 89.84 % of maximum, score of 660) and relevance of program (score 590 which is 89.39 % of maximum score 660). It can be seen that almost from all factors, the respondents have given a score, which form a very high % of maximum possible score of 660. However, on the top is clarity of contents as already discussed and towards the end, it is food & stay arrangements. Some noteworthy observations from this table are- it is quite satisfying for CSIR-HRDC that clarity of their contents is among their topmost scoring factors which clearly signals that on the grounds of clarity, the program contents and the program as a whole quite remarkable. However, at the same time, it needs to be analyzed that another vital component of program contents like the comprehensiveness of program contents fails not so high on the ranking of score of the factors. It is at the 10th position out of a total thirteen. Similarly, among the low-lying factors is encouragement for participation by faculty, which is at 11th place out of total thirteen factors. In terms of ranking of factors, it is not at all pleasant to find such a vital component of encouragement for participation by faculty lying so low on the ranking of factors score. In the same continuation of program contents and related issues, it is quite contradictory that though clarity of contents lies on the top, quality of workbook, exercise, the handout is rated at 12th position out of total 13 factors. CSIR-HRDC needs to take sufficient note of it.

It reflects from the fact that on the issue of motivation by faculty members, the

picture is not very pleasant in terms of the rank of corresponding factors. We also find that the vital issues like quality of “illustration with videos and discussion paper” and “process facilitation and control by faculty” respectively fine at 8th and 9th place among the ranking of various thirteen factors. As these concerns are related to faculty trainers, the improvements on these counts become quite significant and relevant.

Table-3 presents the ranking of factors in relation to LDPOI. This is concerned with the second stage of LDP and respondents here are 62 in numbers, which participated in both stage-1 and stage-2. The purpose of this questionnaire was to capture the responses of respondents on different aspects of training related to its outcome or in other words the execution and implementation of skills learned at the training offer stage at the actual workplace. In a way, the survey at this stage attempts to measure extends of achievement or development of competencies among the respondents or participating trainees.

As in the case of Table-2, here also exactly the same process of obtaining the score of various factors (here only 11 factors) is conducted. Again, these scores are arranged in descending order and presented in tabular form as shown in Table-3. The good thing is that factors like the ability to provide support to the underworking team, ability to provide directions to underworking and self and system awareness score on the higher side with respective score of 277, 275, and 263 respectively. However, it is not quite satisfactory that the factor of mobilizing CSIR teams for extraordinary achievements lies at the bottom of this scorecard. Similarly, vital factors like building strategic perspective and external networking are also lying in poor 9th and 10th places. Similarly, on the outcomes of responses to the change and understanding its implications, the corresponding scores of the factors at 9th place. Other noteworthy observations can be cited as coaching and mentoring factors which is at 5th position in terms of ranking of factors, which ideally must have been among the top two-three positions considering the central gist of LDP. Among the other factors lying with moderated score are Role and Style of Leadership, Effectiveness in assessing a problem and finding its solution, and effectiveness in selecting an appropriate leadership style.

CONCLUSION, SUGGESTIONS AND RECOMMENDATIONS

In this section of the paper, the conclusion is being presented with proper discussion on the acceptance and rejection of the hypothesis formulated for conducting the study. It can be amply seen from Table-2 and deliberations presented in the above section of the study that Clarity of Program Contents, Usefulness of Program Contents, and Relevance of program obtained the top three ranks. Clarity and Usefulness are those aspects, which are the basic requirement of a training program to be lucid in nature. Moreover, the practical phase of the relevance of a training program is in fact its contextuality. It means scores of relevance obtained through surveys reflect the contextuality of the training program also. It is not difficult to relate that relevance of a training program has a lot to do with its contextuality means how contextual it is with the needs, requirements, and relevance of the training program. The above deliberations are more than enough to signify that hypothesis-I of research is accepted and it can be said that lucidity and contextuality are two most important factors found and rated by the respondents at the first stage

of the LDP. This hypothesis stands accepted in light of observations collected like LDP needs to have features like clarity, usefulness, and relevance.

Coming to hypothesis-II, it can be seen from Table-3 that the first three ranks obtained are the ability to provide support to the underworking team, the ability to provide directions to underworking team, and self and system awareness. These observations are clearly in support of accepting the second hypothesis as providing support and direction to the underworking team indicates the facilitative behavior of a leader. Moreover, it is not difficult to imagine that in research, academics, and education kind of environment, the facilitative as well as democratic leadership is the best. In fact, the third rank obtained by self and system awareness is nothing but a complementary observation to the hypothesis of the study. Only a fully self and system-aware leader can afford to be truly facilitative in character and approach. With all the above deliberations, it can be said that the second hypothesis of the research stands accepted.

Suggestions and recommendations of the study include areas of concern like lack of quality illustrations with videos and discussion paper, not so good process facilitations and control by faculty, comprehensiveness of program contents and encouragement for participation by faculty. These factors need to be addressed amicably. Faculty needs to be a facilitator, motivator and include interesting and engaging illustrations. Comprehensiveness feature to program contents also needs to be addressed as it also fares lowly in scores. At the outcome stage, it needs to be seen that aspects like mobilizing CSIR team for extraordinary efforts, essential networking, building strategic perspective, and responding to the change as a leader be addressed properly as all these factors reflect lowest scores among all LDPOI scores.

References

- Brethower, S., & Rummler, G. A. (1979). Evaluating Training. *Training and Development Journal*, 14-22
- Bhatawdekar, M. V. (1986). Evaluation of Training. *National Institute of Bank Management*, PP 7-60
- Bell, J.D. & Kerr, D.L. (1987). Measuring Training Results: Key to Managerial Commitment. *Training and Development Journal*, 41(1), 70-73.
- Costea, S. & Eleni. (2005). The Challenges of Human Resource Management towards organizational Effectiveness: A Comparative Study in Southern EU, *Journal of European Industrial Training*, 29 (2) 112-134
- Ghosh, S. & Kabir, M.H. (2018). Evaluation of Training & Development in Banking Sector of India: Perspective of Employee's Attitude. *International Journal of Engineering, Business and Management*, 2(3), 31-43.
- Mesut, A. & Schmidt, W. (2007). Measuring the Effects of Employee Orientation Training on Employee Perceptions of Organisational Learning: Implications for Training & Development. (The Business Review, Cambridge 8(1))
- Ostroff, C. (1991). Training Effectiveness Measures and Scoring Schemes: A Comparison". *Personnel Psychology*, 44 (2), 353-74.
- [Phillips, J.J.](#) (1994). Measuring Return on Investment. *American Society for Training and Development*, 4.
- Pascucci, F., Temperini, V., & Bartoloni, S. (2016). A Model to Analyze Small and

Medium Enterprises Training Needs Related to the Internationalization. *Chinese Business Review*, 15(1), 18-32.

Phillips, Jack. J. (1996). How Much Is the Training Worth? *Training and Development*, 50 (4), p20-24.

Quesada, C., Herrero, P.P., Espona B. (2011). Evaluating the Efficiency of Leadership Training Programs in Spain. *Social and Behavioral Sciences*, 30, 2194-2198.

Rao, T.V. (1991) Readings in Human Resource Development Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

Sthapit, A. (2012). Evaluation of Induction Training: A Survey of Low and Mid-level Manager at Nepalese Development Banks. *Administration and Management Review*, 24(1), 29-44

Syeda, R.E.F., Muhammad,F., FariaIbad,M, Fara., R. &Shamas,U.D. (2015). Barriers in Employee Effective Training & Learning, *Mediterranean Journal of Social Sciences*, 6(3), 240.

Sulaiti, K.A. (2019). The Role of Training and Development s in Developing the Innovative Capabilities of the Administrative Leadership, Case Study: Ministry of Culture and Sport, Dhoha, Qatar, *International Journal of Business & Management*. 7(5),146-156.

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

Virmani, B.R. (1984). Evaluating and Measuring Management Training and Development. *Indian Journal of Training and Development*,.2, 54-61.

Wade, S (2000). The challenges for Training in the New Millennium, *Training Journal*, pp. 28-29 <https://www.csir.res.in/about-us/about-csir>

Tables

Table-1

A sample of calculation with respect to “Clarity of Program Contents

S.No.	Response (a)	No. of Respondents (b)	Equivalent Score (a) x (b)	% of Respondents
1.	Excellent (5)	75	375	56.8
2.	Very Good (4)	48	192	36.4
3.	Good (3)	6	18	4.5
4.	Fair (2)	2	4	1.5
5.	Poor (1)	1	1	0.75
	Total	132	590	100.00

Table-2

Ranking of Factors- Leadership Development Programme Evaluation Index

S.No	Items	Maximum Score	Achieved Score	Achieving Rate (%)
1.	Clarity of Program Contents	660	595	90.15
2.	Usefulness of Program Contents	660	593	89.84
3.	Relevance of Program	660	590	89.39

4.	Communication Skills of faculty	660	589	88.78
5.	Quality of Group discussion as Contents	660	586	88.76
6.	Knowledge of Subject of faculty	660	586	88.76
7.	Delivery Process	660	586	88.76
8.	Quality of Illustrate with videos & discussion paper	660	576	87.27
9.	Process Facilitations and Control by faculty	660	572	86.66
10.	Comprehensive of me Contents	660	568	86.06
11.	Encouragement for Participation by faculty	660	564	85.45
12.	Quality of me Workbook, Exercise, Hand out	660	556	84.24
13.	Food & Stay Arrangement	660	550	83.30

Table-3
Ranking of Factors- Leadership Development Programme Outcome Index

S.No	Items	Maximum Score	Achieved Score	Achieving Rate (%)
1	Ability to provide support to underworking team	310	277	89.35
2	Ability to provide directions to underworking team	310	275	88.70
3	Self & System Awareness	310	263	84.83
4	Roles & Styles of Leadership	310	261	84.19
5	Coaching & Mentoring	310	258	83.22
6	Effectiveness in assessing the problem and finding its solution	310	254	81.93
7	Effectiveness in selecting in appropriate leadership style	310	252	81.29
8	Understanding implications and responding to the changes as a leader	310	245	79.03
9	Building Strategic Perspective	310	243	78.38
10	Essential Networking	310	243	78.38
11	Mobilizing CSIR teams for extraordinary achievements	310	240	77.41