Systems Approach to HRD: Study of Quality System of a Corporate Training Institute of a Large Organisation

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ABSTRACT: Training is an intentional act of creating a learning environment, after which people may apply their learning in the work field. It is no more a reactive role in organisational life, but it has become an integral part of business and line managers of the organisation, where it forms a transformational role in decision-making, strategic development, policy formulation and business management. Central Power Training Institute (CPTI) is a corporate Training Institute of Steel authority of India Limited (SAIL), which caters to training requirements in the power area of the organisation. In this paper, the authors have tried to analyse the quality system of the institute. The various factors, which have made CPTI high performing institute are also discussed in this article.

Key words: System Thinking, Systematic Approach to Training, Quality System

INTRODUCTION

People are the most valuable asset in an organisation. Human resource development (HRD) in an organisation pertains to the development of people through training and retraining. Systems approach to HRD helps the management to achieve the required development of people in a short span of time maintaining quality and consistency. It takes a holistic view of training in the organisation. It presupposes that each employee in the organisation has unique talents and personal needs and through systems approach to HRD, these can be aligned with the occupational and organisational needs, which helps in effective and efficient utilisation of the human resource in the organisation. Development of appropriate systems and nurturing them to its full potential helps in extracting the best out of the people. In this article, the different indices, which describe systems approach to HRD, are enumerated.

The thoughts expressed in this article is based on a study carried out through survey by structured questionnaire covering two thousand participants who had attended the various programmes during 1995 to 1999 and also through interviews of few heads of departments. The data collected were compiled and analysed, which was further discussed with other faculty members and based on their suggestions, final report was prepared. Here, systems approach (Creech, 1994) to HRD is basically focussed on how training can be integrated to other organisational subsystems such as quality system, performance evaluation system and technical system etc. to achieve overall objectives and goals of the organisation. Soft system thinking (Senge, 1993) envisages continuous improvement through learning rather than through any engineered solutions. Discussions on Process improvement, improvement measurement, innovations, organisation development and Benchmarking etc. are based on soft system thinking in this article.

SYSTEMS APPROACH TO HRD

(a) Organisation Profile

Central Power Training Institute (CPTI) is a corporate training institute of Steel Authority of India Limited, the largest metallurgical organisation in the country. SAIL holds a market share of more than one third of saleable steel in India. It has five integrated steel plants and four special alloy steel plants in its fold. There are about 1.6 lakh employees and during 1998-99, SAIL had a turnover of over fifteen thousand crores of rupees. Power is a vital input to steel making process. Each integrated steel plant has its own captive power plants (CPPs) and a very large power distribution network. They meet their power requirements both from in-house captive power plants and the rest from local power grids/State Electricity Boards (SEBs). SAIL

has installed capacity of power generation of about 800 MW. CPTI works along with Management Training Institute (MTI), a corporate management development centre of, SAIL. While MTI caters to the management training requirement of senior executives of SAIL, CPTI is engaged to impart training to both executives and non-executives of all power plants, power distribution and instrumentation units. There are twelve employees including six faculty members at CPTI. It was established in 1993. In 1996, it was recognised as a Category-I training institute by Central Electricity Authority, Government of India. Category-I institute refers to imparting training to all levels of executives and non-executives up to 500 MW units size. In 1997, it won the coveted National Golden Peacock Quality award in the small service sector for its Quality System. Now a number of employees from other organisations such as NTPC (National Thermal Power Corporation), TISCO (Tata Iron and Steel Company), ICCL (Indian Charge Chrome Limited) etc. are undergoing training in the area of power at CPTI.

(b) Programme Profile

The programmes at CPTI cover a wide area on operation, maintenance, electrical, instrumentation and control, simulator and general types. In the operation area, the topics covered are boiler and auxiliaries, turbine and auxiliaries, generator and auxiliaries, power plant chemistry, fuels and fuel handling system. In the maintenance area, topics like Pumps maintenance, boiler and turbine maintenance, fan and air pre heater maintenance, ESP operation and maintenance, valves maintenance etc. are included. In the instrumentation area, topics such as basic instrumentation, auto loop controls etc. are incorporated. In electrical, transformer and switch gear maintenance, switchyard and substation maintenance, battery maintenance etc. are covered.

The simulator at CPTI is unique in many ways. It is fully digital with all modern facilities having field device terminals to impart training in area operation. This provides opportunity to participants to learn the plant operation by simulating various operational parameters. The simulator consists of a super 32/70 computer system [presently under up-gradation] with accessories supplied by M/s Electronics Corporation of India Limited. Simulator based programmes are covered in two phases. First, basic courses are covered and after a period of 6 to 12 months, the advanced training programme is conducted primarily on emergency handling and malfunctions.

CPTI has a well stocked information centre for use of faculty and trainees. There are more than 400 reference books, 350 operation and maintenance manuals, 400 ASM and BIS manuals, plant equipment manuals and various journals and magazines in the power area. There are a rich collection of videocassettes on boiler operation, turbine construction and operation, transformer and switch gear construction, safety and house keeping etc. The information centre maintains a database of employees trained at CPTI since inception.

(c) Systematic Approach to Training (SAT)

Training at CPTI has systems approach and is always driven by customer's needs. The training programmes are developed and designed in conjunction with customers requirement and continuously evaluated. CPTI adopts Systematic Approach to Training (SAT), which include training need identification, training need analysis, design of training, conduction of training and evaluation of training. Designing of a new training programme takes five to six. months. It is felt that training does not give appreciable result unless sizeable (critical mass) persons are covered in that particular area. CPTI takes up evaluation of training programmes regularly. The evaluation is carried out at four levels i.e. reaction level, learning level, behavioural level and application level.

(d) Quality System

In order to ensure the quality of training programme and to maintain consistency in meeting customer's requirements, CPTI has a well developed Quality assurance System (QAS) (Stahl, 2000) in line with ISO 9001. SAIL adopted four core values for the entire organisation. These are Customer Satisfaction, Concern for People, Consistent Profitability and Commitment to Excellence. Based on these core values, CPTI adopted its quality system in 1995. The Quality Policy of CPTI stipulates, "To continuously develop and sustain the Central Power Training Institute, which is customer oriented, innovative and where quality is the hallmark of all activities." By establishing QAS, the definition of quality shifted from event or person

specific to system specific. With well established system in place, the paradigm shift is more holistic and is towards continuous improvement. Well defined procedures were formulated in the areas of programme coordination, design of training programmes, development of trainer's manual, evaluation of training programme, making simulator ready for training, statistical evaluation of training programmes, preparation of annual training plan and developing training tools and instruments.

The procedures also include air conditioning plant operation, maintenance of equipment, house keeping, catering arrangements, transport arrangement, generation of MIS (Management Information Systems), arranging contracts, maintenance of simulator software, purchase, storage and issue of material, conducting workshops and seminars, training of CPTI employees and induction of new entrants to CPTI. Implementation of these procedures are strictly followed and monitored by Head of CPTI. Under Quality Assurance System, the quality objectives, roles defined for each employee, standard procedures and checklists / formats / registers provide well documented action plans and underlying values. The procedures are dynamic and continually revised to meet the changing requirements of time.

CUSTOMER

Customers at CPTI comprise of employees from SAIL power plants and power distribution departments and outside organisations like NTPC, ICCL, and TISCO etc. Till date around 4000 employees have been trained in various areas of power plant operation and maintenance. CPTI keeps continuous touch with their customers through monthly updated information bulletin. Besides, quarterly newsletters highlighting CPTI activities are sent to all customers and stakeholders. CPTI adopts ICS (Internal Customer Satisfaction) model for identifying training need of customers and finalising training plan. The training co-ordinators receive the participants and ensure their comfortable stay and enjoyable learning atmosphere at CPTI. During inauguration, valediction, tea and lunch break, further interaction with senior faculty members brings CPTI closer to the customers. During the training, each trainee is provided with a trainee manual, which contains basic materials on topics to be covered in the programme in detail. This manual forms a reference for the trainee when he goes back to the work place.

Kleiner (Kleiner & Roth, 1997) advocates learning history, which is the written narrative of company's recent set of critical episodes such as corporate change event, a new initiative, innovation and crisis management etc.. Every year, CPTI organises seminar on achievements, failures and focusing on future strategy on power in SAIL. Executives from all SAIL power plants and other organisations take part in this seminar. At the end of the seminar, a booklet is published and circulated to all customers. It offers opportunities for collective reflection, sharing experiences and updating on latest developments. It transfers knowledge from one part of the company to the other.

All these above efforts have resulted in significant benefits in improving the efficiency and effectiveness of the customers. During the last five years, more than 4000 employees have been trained in various training programmes at CPTI. Evaluation of training at application level indicates that the confidence level of the employees have gone up very high. There has been significant increase in the production continuously in the last four years. Fig-1 depicts the increase in production during 1995-1999.



Figure 1: Power generated in SAIL Plants

PROCESS IMPROVEMENT

CPTI has adopted systems approach to HRD, which envisages no permanent solutions, only continuous improvements over the past. Different procedures are never considered to be static, because with time and space, it looses its relevance. Therefore the procedures are regularly reviewed in the faculty meeting and changes are made to meet the present requirements. In principle, the trainee manual, trainer's manual etc. are up dated regularly to include the latest developments in the specific area. Every year, new programmes are designed through SAT route depending upon the customer's needs. Training methodology, the process of conduction of training is discussed if the feed back at the reaction level is not satisfactory. Similar changes are brought in the support service areas in different procedures.

Innovations in the area of programmes and support services are the hallmark of CPTI. This is due to the involvement of the employees in the decision-making and different quality circles. Employee suggestion scheme has become very popular at CPTI. Different suggestions by the employees are scrutinised by the suggestion committee and implemented to bring about improvements at workplace. CPTI always believes in people's strength. While it is dependent on people's strength for the development of CPTI, the weak points are identified and necessary support and training is provided to overcome these weaknesses. As a result, a number of case studies were developed, documentation procedure was strengthened, design procedure was adopted, drinking water supply problem to CPTI was solved and so on. Peter Drucker (1998) says Innovation opportunities lie in unexpected occurrences, in congruities, process needs, industry and market changes. CPTI has identified all these areas and encourages employees to continuously innovate. Innovation does not mean inventing something new always. Even if a procedure or methodology is applied else where, but if it is applied for the first time at CPTI, it is also considered as innovation.

IMPROVEMENT MEASUREMENT

What gets measured gets improved. Customer satisfaction indices are measured continuously and displayed in a chart form for the knowledge of the employees. This helps the employees to monitor their own performance and bring improvements wherever necessary. The different indices used to measure customer index are overall programme effectiveness, session effectiveness, session content, session process, support services etc. Regular monitoring of these indices help the organisation to reduce cost, improve session effectiveness, programme effectiveness and quality of services. Table-1 shows the continuous improvement in customer satisfaction index during 1995-2000.

Parameter	1995-96		1996-97		1997-98		1998-99	
Customer Satisfaction Index	Lower Control Limit							
	3.00	75%	3.00 75%		3.00 75%		3.00 75%	
	(on a 1-4 scale)	% satisfaction						
Overall Effectiveness Programmes :-	3.27	82%	3.23	81%	3.27	82%	3.37	84.25%
Session Effectiveness	3.26	82%	3.31	83%	3.32	83%	3.37	84.25%
Sessions - Content	3.27	82% 81%	3.33	83%	3.36	84%	3.39	84.75%
Sunnort Services -	3.20	82%	0.29 3.37	82%	3.38	82% 94%	3.34 3.47	83.30%
Neuro keening	0.23	92%	0.07	04 70	0.00	04%	0.70	00.93%
nouse-keeping Trainee Manual	3.67 3.12	78% 73%	3.69 3.22	92% 81%	3./3 3.17	93% 79%	3./8 3.31	94.50% 82.75%
Catering Class Room	2.92 3.45	86%	3.05 3.50	76% 88%	3.08 3.53	77% 88%	3.21 3.61	80.25% 90.25%

Table 1: Effectiveness of Programmes

Training organisations in high performing companies can be considered as role models. Bench marking (Stahl, 2000) with them helps CPTI to become a top-notch training institute. As a case, an attempt has been made to benchmark with Motorola University (Seratela, 1997), USA. As a part of Strategic training, a number of problem solving workshops covering environment management, boiler outages, capital repair, cost control etc. have been covered. In tactical training, to fulfil statutory obligations under Indian

Electricity Rules 1956, a variety of programmes as per CEA guidelines have been included. The strong competencies of CPTI are in the area of systematic approach to training, training of training officers and live delivery. Like Motorola, CPTI is networked not only with MTI but also with training & development centres of all SAIL plants and units. Directives and approval by apex training advisory board headed by Chairman, SAIL is a part of ICS (Internal Customer Satisfaction) process for finalising annual training plan. CPTI faculty members are deeply involved in all relevant networks. Open learning centre, dynamic and static models, trainer's manuals, workbooks, annual book gift to guest faculty members to motivate them to give their best in CPTI sessions are some of the hallmarks of innovations at CPTI.

ORGANISATION DEVELOPMENT

Organisation climate (Panda & Upadhyay, 1998) in terms of values, traditions, communication, leadership style etc. is very important in sustaining the culture, which has been developed over the years. Upadhyaya (1998) says, "Organisations, like individuals, live and grow with a unique personality of their own. For a larger majority of employees, the cultural context of the organisation is the prime mover of excellent performance." A survey amongst the employees shows that there is a fair degree of openness exists from peer to peer. Collaboration amongst employees is maximum during programmes and seminars. Employee trust is maximum at peer group level. There is positive tendency to encounter and solve problems rather than postpone it. People take pride in identifying themselves with organisation while interacting with outsiders.

The success of the training institute is clearly linked with the priorities of the top leadership. Organisational leadership (Creech, 1994) is essential for providing the direction for growth and development in an organisation. Leadership sets the right path, defines the structures and systems and ultimately directs people towards the common objectives of the organisation. Leadership is all the more important in the changing paradigms of quality. Where organisations are reorienting to total quality approach, leadership is a key element in facilitating a conducive environment. It is the vision and action of the man at the helm of affairs of the institute, which puts the training institute in top gear. The top management support helps translating quality policy and objectives of CPTI into concrete actions as these actions make a visible impact in the quest towards total quality.

Apart from the above mechanisms, cross-functional work teams, promoted by senior executives help in reinforcing focus on customers throughout organisation. It has been realised that in the fast changing environment, a flexible network structure is essential within the organisation. Working in networks helps CPTI team members to realise the goals and action plans and promotes participation and involvement at all levels. This further facilitates the quality and customer orientation at CPTI. Whether it is a task in the area of programmes or support services or publication of quarterly Newsletter, cross-functional teams and networks take care of all problem-solving situations.

CPTI faculty members are experienced in boiler, turbine, electrical, control and instrumentation and power chemistry areas. They are encouraged to attend training programmes in leading institutes like National Power Training Institutes, NTPC, IITs in India and abroad at VAIS, UK and other institutions for updating on the latest developments in power area. They visit regularly to modern power stations to update knowledge in the area of power. The faculty members are motivated to write papers for various journals and they are encouraged to attend national and international seminars. Taking part in the start up and shut down of power plants is a regular feature in the development of faculty members. Trainer's manual is used as a guide by them for taking sessions effectively. The trainer's manual contain objectives of the programme and sessions, programme schedule, faculty panel, session plan, detailed teaching notes, methodology to be adopted during sessions, trainee handouts, transparencies etc. This helps both internal and external faculty members to maintain consistency and quality in conducting sessions.

Another mechanism which helps in realising visions and values is the concept of conducting regular faculty / staff development workshops. A number of workshops on general themes like 'Understanding Finance Procedures', 'Training of Training Officers for Problem Solving workshops', 'Effective Running of Sessions', 'Seven Habits of Highly Effective People', 'Productivity Initiatives' etc. and on ISO and quality related aspects were conducted. These are typically large involvement exercises where employees initiate and anchor discussions in different areas. Most of these workshops result in development of individual and team action plans. Any idea for improvement, small or big, is encouraged and implemented earnestly. Also,

as a part of effective implementation of QAS, focus is given in two of following critical factors. In the approach to quality there is no compromise, as painstakingly senior executives try to take corrective actions for non-conformance in delivery of products. Easy approachability to CEO and senior leadership at CPTI by all employees permeates these initiatives.

CHANGE MANAGEMENT

Nothing is permanent except change. Change is inevitable in any business organisation. A learning organisation (Gavin, 1993) is one, which flows like a river and encompasses all changes that come across and marches ahead. Steel industry in the world and SAIL in particular have been experiencing a lot of changes both inside and outside the organisation in the last few years. The company has embarked upon massive restructuring programme to restore company's financial foundation, restructuring the organisation, reinforcing market initiatives, regaining cost leadership and redefining the business performance. It has been planned to right size manpower to make the organisation efficient, vibrant and cost effective. Although in the last few years, a number of employees have separated by virtue of resignation, voluntary retirement etc., CPTI has managed with reduced manpower by developing people on multi-skilling, redeployment and developing more new procedures. The contract on simulator maintenance was abolished on ECIL (Electronics Corporation of India Limited), who have been maintaining the Simulator Computer System since inception. Internal Faculty members have been trained and developed through a series of faculty development workshops for maintenance of Simulator System. This has reduced a lot of maintenance expenditure and brought about substantial savings to the company.

CONCLUSION

Steel Authority of India Limited (SAIL) is investing significant amount of resources continuously in its efforts for human resource development the basic assumption being people in the organisation are the key in achieving the overall corporate vision of the organisation. A systems approach to HRD has enabled CPTI to contribute significantly in fulfilling the basic assumptions behind the efforts of SAIL in human resource development. Quality system with a clear customer focus, continuous process improvement, improvement measurement, innovations and organisation development have helped CPTI to get recognition at national level. CPTI takes pride when their customers grow and achieve new records in their performance level. The organisation is committed to sustain the category-I recognition from CEA for conducting statutory training and continuously meet changing needs of customers. Organisational changes are continuous and complex phenomenon and systematic approach to training clubbed with appropriate QAS can play a significant role in enabling the company to scale new heights of success.

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