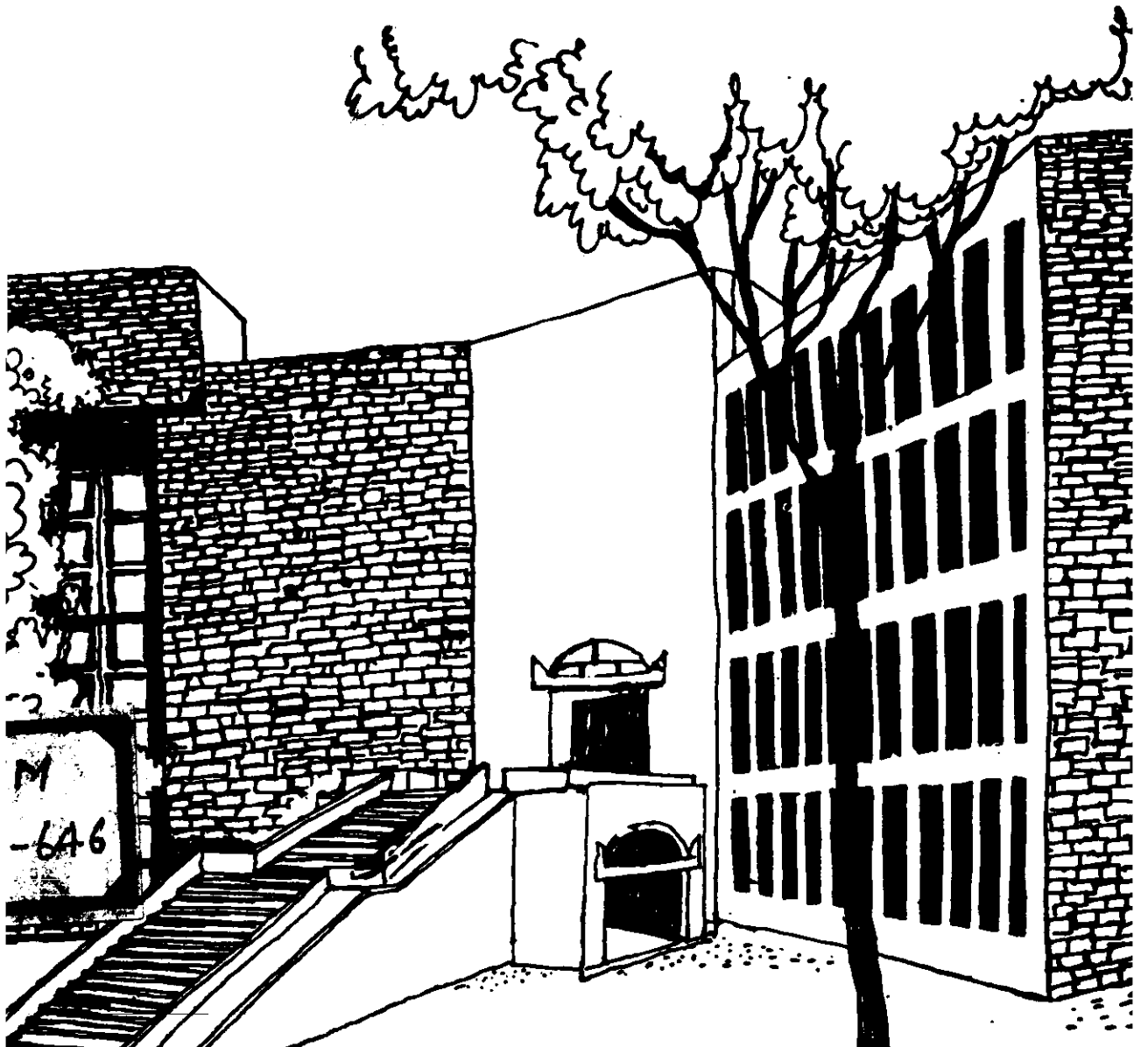


Working Paper



TRAINING FUNCTIONS IN INDIA

By

Mirza S. Saiyadain

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INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380015
INDIA

INTRODUCTION*

Training as an independent function is supposed to have started as early as the beginning of stone age, when man started amassing knowledge and transferring it through signs and deeds to others. Subsequently, the skill and knowledge of the crafts were transmitted by direct instructions through the apprenticeship system. The advent of Industrial Revolution (1750 AD) could perhaps be taken as the beginning of vocational training (Steinmetz, 1967). Today, training is not only an essential prerequisite for all kinds of jobs, but a large number of studies are also carried out regularly to develop methods and systems to make training as effective as possible.

RESEARCH ON TRAINING IN INDIA

Indian trainers and researchers have been able to generate a systematic body of knowledge on various aspects of training in India. We have, in India, a reasonably good understanding of the various facets of training and a meaningful grip on them for human exploitation. Such studies can broadly be classified into three different categories dealing with identification of training needs, training methodology, and training effectiveness. A brief review of some of these studies is presented below:

Studies on Need Identification

A number of studies on the identification of training needs are available. Some of them deal with the general framework while others are specific company-based studies.

* This study was funded by IIMA.

For training activity to be meaningful, Dayal (1970) suggests that a detailed study of jobs and skill analysis is absolutely necessary. The training thus imparted would help the employee to adjust to their job requirements. As far as the supervisory category is concerned, Sundaram (1970) points out that the training needs for supervisors can be identified through careful observation of their work which is indicative of poor performance, low production, high cost, poor product quality, high scrap, spoilage, wastage, accidents, absenteeism, and turnover. The day-to-day complaints and grievances also form a useful source for identifying their training needs. Given that supervisors are the first contact point for the workers, Ghosh (1984) stresses the need for behavioural inputs in any training programme organized for supervisors. Using the Delphi technique for assessing the training needs for Managers, Srinivasan (1977) recommends that their training programmes should focus on corporate planning, organizational development, and personnel management.

As far as identifying the training needs by the company is concerned, Glaxo Laboratories consider the following factors:

1. Level and rapidity of technological and administrative changes;
2. Level of individual and group performance;
3. Changing organizational structure; and
4. Perceived organizational imbalances.

At the individual level, the person himself identifies the need for training and records it or the appraiser discusses the individual's training needs in view of his deficiencies on the job.

Since Glaxo uses MbO system this process helps a great deal in making training useful to both the employees and the organization (Lawande, 1980).

Bhatia (1981) sees a shift from knowledge to attitude as the main objective of training. He identifies three areas of training - technical skills and knowledge, knowledge of organization and external systems and conceptual and interpersonal skills. He suggests that the emphasis on these three must vary according to the level of the employee. The workers' training should focus on technical skills and knowledge followed by conceptual and interpersonal skills, and knowledge of organization and external system. In the case of supervisors, conceptual and interpersonal skills should be emphasized followed by technical skills and knowledge, and knowledge of organization and external environment. As far as managers are concerned, the sequence is the same as that of supervisors except that the order of knowledge of organization and external environment and technical skills and knowledge is interchanged.

Seth (1984) administered a 72 item questionnaire on 119 personnel managers. The cluster analysis revealed personnel managers to be more employee oriented, able to recognize the utility of group processes, and having faith in workers' ability to take initiative and handle responsibility. On the basis of results, Seth suggested that training for personnel managers should be directed towards attitudes and beliefs underlying managerial philosophy and their inter-relatedness.

The studies on the identification of training needs thus emphasize not only the organizational analysis but job and individual role analysis as well.

Studies on Training Methodology

There is some debate on the feasibility of certain training methods used in the Indian context. Basha (1971) takes the star that multinationals operating in India find that their home training techniques do not have the same impact here. Due to differences in culture and background, business games, T-groups, case methods, and workshops are not as effective in India as perhaps in Europe or America. He concludes that given the Indian context, the lecture cum discussion method would be most useful. Much in the same spirit, Prahlad and Thiagarajan (1971) suggest that structured exercises seem to offer greater scope in India. Such techniques as T-group, management games, and MITRA exercises assume a minimum level of intellectual competence in the participants. The trainer, therefore, has the additional responsibility of assessing the relevance of the method before using it.

Saxena (1973) suggests that the OD technique can be most useful for training employees in government. The training programmes of the government are designed to inculcate capabilities to introduce change and review the environment. OD can help in improving organizational design, introducing organizational flexibility, reducing impersonality, improving interpersonal relations and differentiating operational decision making from policy decision making.

In order to create a realistic atmosphere in training, Srinivasan (1980) used experimental learning techniques in training a group of postal employees in the Post Staff College, New Delhi. The technique consisted of requesting the participants to bring real life data to classrooms. A detailed analysis of this data helped the participants to understand problem areas and take well informed decisions.

Agarwal (1982) in his study on graduate engineering trainees in three large public sector organizations found that both the method and the contents of the training were perceived by the trainees as demotivating and dissatisfying.

Studies on Training Effectiveness

The basic question of effectiveness of training deals with the issues whether formal training programmes contribute to the development of job related skills eventually leading to greater effectiveness. Mehta (1970) points out the training effectiveness is dependent on two considerations - (1) trainers are fully responsible for training. If the employees do not show results the trainer should be held accountable for it (2) training per se is not the answer to the problems. Training effectiveness depends on the kind of atmosphere and culture that is prevalent back home.

Accepting these constraints as contributory, many studies have shown that training does make a difference. Jain (1985) collected data on 119 managers in the steel industry who had attended in-company or external training programmes. A

questionnaire was administered and their responses were tallied. A majority of the respondents were found to be satisfied with the instructors, the size of training group, the training duration, the reading material and the training equipment. Except for one respondent, all felt that training contributed substantially in developing their knowledge, skills, and attitudes. They also felt that the environment did help in implementing some of the learning that took place during training.

Yet two studies suggest some opposite findings. Banerji (1981) collected data on supervisors who had undergone training in an Indian engineering company. They were administered a check list. The responses indicated that the inputs in industrial relations had little or no impact on their effectiveness. However, most of them felt that training did improve their self confidence, motivation, identification with management goals, and communication ability. In another study, Maheshwari (1981) collected data on 999 respondents from banking institutions. Though these managers found training programmes less effective with respect to their contribution to job performance, they did endorse the usefulness of formal training.

Sikka (1985) suggests two models to evaluate training effectiveness. First is the expectation-achievement model consisting of matching post training achievements with pre training expectations of the boss, peers, the subordinates and trainee himself. The second is the experimental control group model, wherein a group of employees who have gone through

training is compared in terms of their performance with those who have not. The models are useful in generating comparative data to judge if training has really made a dent.

While the studies reviewed here and many others in the area of training have contributed extensively in developing a body of knowledge, each one of them has dealt with one specific aspect of training. None of the studies has dealt with the state-of-art as it exists in India today.

THE PRESENT SURVEY*

The present survey was undertaken to examine the nature of training functions in India. Specifically, through this survey, we wanted to understand:

1. The significance attached to training in terms of the overall functions of the organizations - the level and/or the structural location of training departments; their management; nature and size of infrastructure and cost.
2. The systems and methods used in identifying training needs.
3. The nature, duration, and frequency of training programmes mounted by organizations and sponsorship to the external programmes including those organized abroad.
4. The attempts made to assess training effectiveness; preparedness in making adjustments in packages for better results.

* The cooperation of participating organizations is gratefully acknowledged.

Methodology

Data were collected through a questionnaire (See Exhibit 1) which was mailed along with a self addressed unstamped envelope to 761 organizations randomly chosen to represent a variety of industries, technologies, sectors, geographic locations, products, services, size and age. Two months were given for their return and hence end of July 1986 was prefixed as the last day for accepting questionnaires to be included in the sample. Unfortunately the rate of return did not turn out to be as encouraging as originally envisaged. Most of the completed questionnaires that came back were received within a month of the despatch. In all, 49 completed questionnaires were received which represented 6.4 per cent of the total sample to which questionnaires were mailed. A list of these organizations is given in Exhibit 2. The participating organizations are fairly representative of the variety of industries in India.

Sample Characteristics

The sample organizations represented 17 different kinds of industries (See Exhibit 3). In terms of their age, there were some that were more than 36 years old while others were recently established (5 years or less). The sample distribution by age of the organizations is given below:

5 years or less	8
6 - 10 years	3
11 - 15 years	6
16 - 20 years	5
21 - 25 years	4
26 - 30 years	8
31 - 35 years	1
36 and above	14
	<u>49</u>

Of the 49 organizations, 17 have their head office/corporate offices located in the Western region, 6 in the East, 13 in the North and 13 in the South. The percentage of public sector undertakings in the sample* was 22.91, private sector 66.66, and joint sector 4.16. There were three organizations in the sample which were either a partnership firm or a cooperative society. 18 of them had foreign collaborations with parent companies in the USA, Japan, UK, France, West Germany, Canada, Holland, Belgium, Switzerland, Italy and East Germany.

As of last accounting year the average employee strength of the sample organizations and the standard deviations are given below:

<u>Employees</u>	<u>\bar{X}</u>	<u>S.D.</u>
Managers	132	182.60
Supervisors	341	428.24
Workers	1570	1703.37

* All 49 organizations have not always responded to all the items in the questionnaire. The percentages quoted in this report are based on the number of organizations that have responded to various questions. These numbers are indicated in the parentheses immediately after the percentages wherever the total is less than 49.

As can be seen from the data above the standard deviations for all three categories are large because of the wide range of employees in these categories across organizations. In terms of the span of control, on an average, 4.76 workers are controlled by one supervisor and 2.64 supervisors report to one manager.

The average annual turnover over the last five years was found to be 60.90 crores (range = 0.25 - 535.00 crores) and the average annual turnover in the last accounting year was found to be 72.31 crores (range = 0.26 - 711.00 crores). These organizations varied from .05 per cent to 41.0 per cent in their cost of human resources over the total turnover in the last accounting year (average = 10.32%). Of the total of 45 organizations that answered this questions, 86.66% organizations made profit in the last accounting year. Of the 49 organizations, 4 are reported to be totally self financed while the rest acquired funds from the following sources. (The percentages do not add to 100 because many organizations have acquired funds ^{from} more than one source).

Shares	48.98%
Debentures	24.48%
Fixed deposits	46.93%
Banks	81.63%
Other financial institutions	67.34%
Other sources	16.32%

Manning of Training Departments

Of the 49 sample organizations, 16 (32.65%) have their separate training departments, while for the rest, training function is a part of the general personnel and administration activities.

On an average, the separate training departments of 16 organizations have been functioning as separate entities for the last 9 years (range = 1-24). In 68.7 per cent of the sample, the incharge of the department is designated as Manager (Training) while in the remaining, they are designated as principal, general manager, superintendent (training) etc. in 75 per cent of the cases they report directly to the General Manager/Director/Corporate Vice President (Personnel). In one case, however, the incharge of training reports directly to the Chairman. The manpower for these departments usually consists of officers and ministerial staff. The average staff strength was found to be 3.1 employees. There were faculty and instructors on the payroll of three of these organizations. Fifty seven per cent of the incharge of departments have bachelor's degree while 43 per cent have a master's degree. Surprisingly, while a large majority of them have their first degree either in engineering or in science, they have acquired their post-graduate education in fields relevant to training functions. They have been in their respective organizations for an average period of 8 years and 6 months and in training departments for 5 years and 7 months.

For the 33 organizations which do not have separate training departments, the training functions are looked after by managers who are also incharge of industrial relations, recruitment, manpower planning, appraisal, etc. However what is more interesting to note is that as many as 27.27 per cent of the managers whose prime concern is with materials management, production, maintenance, finance, and marketing are also looking after training functions in their organizations. In both cases they report to the general managers (64%), the executive directors (20%), the president (4%), the chairman (8%) and the production engineer (4%). They have been in the organization for 8 years and 6 months and have been looking after the training functions for almost 5 years on an average. While every one of them has a minimum bachelor's degree, except for 4 out of 33, none has formal professional degree relevant to manage training functions.

A subsequent analysis of the characteristics of the organizations that do not have separate training departments suggests that majority of them:

1. employ hundred or less managers (54.5%)
2. employ five hundred or less workers (43.2%)
3. have shown an average turnover of 10 crores or less in the last five years (45.4%)
4. had an average annual turnover of 10 crores or less in the last accounting year (36.4%).

The above observations are based on the analysis of the distributions of organizations on various characteristics and the existence of training departments in these organizations. The

above profile includes only those characteristics where values of Chi-square are significant beyond the conventional levels of significances (See Exhibit 4).

Of the 38 organizations which responded to the question "have you sent your training incharge to external training programmes", 25 (65.79%) have replied that they were doing so. These programmes varied in duration from 1 day to 5 months and 55 per cent of them focused fully or partially on packages relating to training functions. Such organizations as Indian Institute of Management (IIM), Ahmedabad, Administrative Staff College of India (ASCI), Indian Society of Training & Development, Board of Apprentice Training, NITIE, Bank Staff Training College and Indian Institute of Technology, Madras have been pointed out as training organizations where the managers were sponsored for courses on training.

Training Facilities

In order to impart effective training, adequate infra-structural facilities are important. It is unfortunate to note that only 12.2 per cent of the organizations have full-fledged training colleges/institutions of their own, indicating the inadequacy of necessary infrastructure to mount training programmes. The facilities include class rooms, library, audio-visual equipment, faculty on permanent payroll, residential facilities,

and a training secretariat. While other organizations are not as fully equipped as these, they have limited facilities of their own. For example, 48.9 per cent of the organizations have their own modest libraries containing more than 100 books on management and allied fields; 38.7 per cent has audio-visual equipment; and 20.4 per cent has permanent faculty on the payroll. Other than these, infrastructural facilities for training are almost non-existent.

Training Cost

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The significance of the training function can be estimated in terms of the cost incurred on training programmes. Often the needs are clear and the employees who need training and the training programmes that would be most beneficial to them are well known. However, because of financial constraints, they are not sent to appropriate programmes and compromises are made on both the contents and the agency offering the programmes. The organizations were asked to indicate how much they spent on training in the last accounting year. Twenty-three organizations responded to this item. While the organization-wise cost varied from Rs.8,000 to Rs.10 lakh, the average cost works out to be Rs.2.19 lakh per organization.

The organizations were asked to indicate total turnover, percentage cost of human resources and the total cost of training during the last accounting year. 20 organizations provided all three kinds of data. The total turnover for

These 20 organizations varied from 1 crore to 1000 crores ($\bar{X} = 104.2$ crores), the percentage cost of human resources varied from 2 to 25 (average percentage = 9.86) and the training cost varied from 8 to 100 thousands ($\bar{X} = 1,93,983$). While the average cost of human resources was 9.86 per cent of the total turnover, the average cost of training works out to .017 per cent of the total cost of human resources. The rank order coefficients between the cost of human resources and total turnover as well as cost of training work out to be $-.197$ and $-.109$ respectively. Both coefficients are statistically insignificant but their direction suggests that the higher the turnover the lesser the percentage cost of human resources and the higher the percentage cost of human resources the less the expenses on training.

Identification of Training Needs

In order to be able to sponsor and/or mount relevant training programmes for the employees, it is necessary that organizations establish the training needs as realistically as possible. One major opportunity for need assessment comes at the time of annual performance evaluation. Organizations were asked to indicate if they have formal mechanisms of appraisal available to them and if yes whether they use them for identifying training needs.

The results suggest that 65.3 per cent and 67.3 per cent of the organizations do have formal appraisal systems for managers and supervisors respectively. Of these, 60 per cent

and 58 per cent seek appraisers' **recommendations** specifically on the training needs for managers and supervisors respectively. Generally the training needs indicated for managers cover such areas as interpersonal skills, communication, leadership competence, attitudinal training, and functional competence in that order. As far as supervisors are concerned, the training needs indicated follow the order of updating functional knowledge, social skills, leadership effectiveness, motivation, industrial relations and overall development.

In addition to identifying training needs through appraisal reports, the following mechanisms are also used by organizations to assess the needs. These mechanisms for managers, supervisors and workers along with the percentages of organizations endorsing them are discussed below:

Managers

Growth and diversification in business	59.2%
Managers themselves indicate	42.8%
Through performance review meetings	34.6%
Changes in specific roles	34.6%
Overall performance of their units	34.6%
Surveys of training needs	30.6%
Through potential appraisal	28.5%
Through external consultant	12.2%

Growth and diversification of business provides the next best indicator of training needs after formal appraisal for managers. What is interesting to note is that in 42.8% of the organizations

managers themselves come forward to indicate the nature of training they would like to have. In a small percentage of cases, the organizations would like to seek the assistance of external consultants in identifying their training needs. The data for supervisors are given below:

Supervisors

Feedback in appraisal	53.0%
In consultation with concerned supervisor	40.8%
Survey of training needs	34.6%
Overall performance of the unit	34.6%
Feedback from workers	18.3%
Through external consultant	16.3%

As far as supervisors are concerned, besides specific information in appraisal reports, general feedback by the reporting authority is used by 53 per cent of the organizations to identify the training needs. This is further confirmed by consulting the immediate supervisors by 40.8% of the organizations. Once again like managers external consultant's assistant is also sought but that is only done by 16.3% of the organizations. The training needs for workers are identified through following mechanisms.

Workers

Recommendations of immediate supervisor	55.1%
At the time of transfers	26.5%
At the time of promotion	24.4%
Analysis of work behaviour	24.4%
Through workers' suggestions	18.3%
In consultation with unions	14.2%

More than fifty per cent of the organizations go by supervisors recommendations in deciding for the training programme for workers. However the times for transfer and promotion also provide occasions for sponsoring workers for training. In 14.2% of organizations, unions seems to play a role in deciding the training needs of the workers.

In the fast changing world of today, the nature of jobs and the skills required to perform these jobs are also undergoing changes. Organizations that are not conscious of this and are not willing to examine today's realities afresh may have to pay a high price for their ignorance and/or unwillingness. The participating organizations were asked to indicate how often they reviewed job description in the organizations. Twenty-five organizations had responded to this question of which 10 said that they reviewed their job description every year, 9 every fifth year or more, 4 once in three years and one each for every alternate year and once in four years. In the case of 20 organizations, this exercise had led to training/retraining of the employees.

Perhaps another source for identifying training needs is the occasion provided by the mobility pattern, particularly transfer of the employees. About 65 per cent of the participating organizations are multiunit, multiproduct companies and they do have the policy of transferring their managerial/supervisory personnel from one unit/product to another unit/product. The results suggest that 61.2% and 59.1% of the

organizations transfer their managers and supervisors respectively to other units and products. However, before the new postings take place, these managers and supervisors are equipped for new responsibilities by training provided through a variety of mechanisms. These mechanisms with the percentage of managers and supervisors trained by them are given below:

<u>Mechanisms</u>	<u>Managers</u>	<u>Supervisors</u>
In-house internal faculty	34.6	32.6
In-house external faculty	14.2	14.2
External agencies	16.3	10.2
On-the-job training	53.0	44.8
Training abroad	20.4	12.2

A majority of the transferred employees are trained on-the-job. The percentages in case of managers and supervisors are 53.0 and 44.8. This is followed by in-house training using faculty on the payroll of the organizations. 34.6% and 32.6% of the organizations equip their managers and supervisors respectively through this mechanism. Few organizations (10.2%) use external agencies for the supervisors. Similarly least percentage of organizations (14.2%) use in-house programmes with external faculty to train their managers for new positions accruing because of transfers.

Training Programmes

In this section we would examine both in-company as well as external programmes (national and foreign) along with orientation/induction training programmes.

1. Induction Training: It seems that a large percentage of organizations has formal induction training programmes for managers, supervisors, and workers. The percentage of such organizations for three categories are given below:

	<u>Yes</u>	<u>No</u>	<u>N</u>
Managers	74.4%	25.6%	43
Supervisors	86.1%	13.9%	37
Workers	73.8%	26.2%	42

The last column in the data above represents the number of organizations that responded to this item. Of these organizations that arrange formal induction training for their employees, the average duration of such programmes are given below:

	<u>Average Duration</u>
Managers	36.6 days
Supervisors	31.9 days
Workers	28.8 days

It seems that as we go down the hierarchical levels, the number of days required to complete the induction training also decreases showing a positive relationship between level and duration of induction training.

The induction training programmes for managers emphasize such aspects as organizational philosophy, culture and value systems, plans, policies and procedures, working of the total system, business environment, structure and processes of the organization, familiarization with company's products and services; and authority, responsibility, and accountability in the organization. In the case of the supervisors while the orientation is given on the company policy, culture, product, environment, rules and regulations, reporting relationship, etc., the focus seems to be more on job training, safety, entitlements, working of relevant departments, shop floor responsibilities, leadership orientation and an understanding of the profile of workforce. They are also familiarized with the company's products or services. However, when it comes to the induction training of workers, majority of the organizations seem to focus on such issues as motivation, work attitudes, safety, discipline, welfare schemes, productivity and efficiency, first aid, technical knowledge of the work, immediate supervision and company rules and regulations. The differential focuses in the induction training suggest that as the level goes down the items relating to productivity welfare and safety become more predominant contents in the induction training.

While a majority of the organizations offer induction training programmes for all levels of the employees, only a small percentage of organizations (28.6%) has undertaken

follow-up study of the effectiveness of such training programmes. The follow-up studies have helped them in improving advance planning, adjusting the duration, shifting emphasis, selecting faculty, improving methodology of training, relooking at the job descriptions of various levels, and modifying training technology.

2. In-company programmes: During the last accounting year, as many as 118 programmes for managers, 206 for supervisors and 168 in-company programmes for workers were organized, averaging 2.4 for managers, 4.2 for supervisors and 3.4 programmes for workers per organization per year. The emphasis generally seems to be on supervisory development followed by the development of workers and then managers. However, in terms of sheer numbers, on an average, 98.1 workers, 82.2 supervisors and 60.9 managers per organizations per year were trained by the in-company training programmes. The distribution of programmes and employees trained over the year using internal, external, or both faculty resources are given below:

	<u>Managers</u>	<u>Supervisors</u>	<u>Workers</u>
Internal faculty only	35 (1107)	116 (2733)	121 (3589)
External faculty only	54 (934)	67 (406)	24 (685)
A combination of both	29 (855)	23 (889)	23 (542)
	<u>118 (2896)</u>	<u>206 (4028)</u>	<u>168 (4806)</u>

The number in brackets indicate the number of employees trained. We can draw the following conclusions from the data given above.

1. A large number of in-company programmes where internal faculty is used are organized for workers (72%) followed by supervisors (56%) and managers (30%).
2. The trend in 1 above is reversed when it comes to calling the external faculty for in-company programmes. Here the largest percentage is that for managers (45.7%) followed by supervisors (32.5%) and workers (14.2%).
3. However, when there is a combination of both internal and external faculty more managers (24.5%) as compared to supervisors (11.1%) and workers (13.6%) are exposed to such in-company training programmes.
4. While a larger percentage of in-company training programmes were organized for managers using external faculty (45.7%), the average number of managers trained per programme was lowest ($\bar{X} = 17.29$) as compared to programmes where internal faculty ($\bar{X} = 31.62$) or both ($\bar{X} = 29.48$) were utilized.
5. While for managers more in-company programmes with external faculty are organized, for supervisors and workers most of these programmes are handled by internal faculty. As far as workers are concerned on an average, more workers per programme are trained by internal faculty.

The decision to offer an in-company training programme is a function of a variety of factors. The sample organizations seem to use a mix of these factors.

<u>Factors</u>	<u>Percentage</u>
1. Specific need based programmes identified at the planning stage	77.5
2. Availability of sufficient participants	24.5
3. Availability of external consultants	20.4
4. Cost considerations	18.3
5. Pressure from certain departments	6.1
6. Pressure from employees	2.0
7. Pressure from unions/associations	2.0

The results suggest that in more than three-fourth of the cases, the organizations offer such programmes based on the specific needs identified at the time of the annual planning exercise. While the availability of the external consultant, sufficient participants and funds are also factors to reckon with, they do not play as significant a role as the need for such programmes. Specific

The organizations were requested to provide the titles of in-company training programmes organized by them during the last accounting year. The objective was to get an indication of the themes on which such programmes were mounted. The results indicate that for managers they mounted programmes on such themes as management development, electronic data processing, management information systems, appraisal and counselling, training techniques, transactional analysis, and workers' participation. Transactional analysis, quality circles, productivity, computers, industrial relations, human relations, communications, technical know-how and merit ratings were the themes on which programmes were organized for the supervisors. For workers the majority of the programmes were on safety, accident prevention, motivation, and technical know-how.

A number of teaching technologies are available to the trainers. As far as the in-company training programmes are concerned, the information was sought on the use of these training methods for various categories of employees. The

The methods along with the percentage of organization using them for employees during in-company training programmes are given in Table 1.

Table 1

Percentages of methods used for various categories of employees (in-company training)

Methods	Managers	Supervisors	Workers
Straight lecture	20.4	38.7	34.6
Lecture-cum-discussion	59.1.	65.3	46.9
Role play	24.4	26.5	12.2
Close circuit video recording	16.3	14.2	6.1
Educational films	36.7	44.8	28.5
Case method	40.8	40.8	24.4
Simulation techniques	16.3	18.3	2.0
Computer games	6.1	6.1	-
Group exercises	36.7	36.7	18.3
Sensitivity training	10.2	2.0	6.1
Seminars	32.6	20.4	6.1
Syndicate methods	24.4	18.3	6.1
Presentations	14.2	18.3	12.2
Location visits	16.3	26.5	22.4

The percentages in Table 1 suggest that lecture-cum-discussion continues to be the most predominant method of training for all three class of employees followed by case method for managers and straight lectures for supervisors and workers. Although the use of computer games is nominal for managers and supervisors, this methodology is non-existent as far as workers are concerned.

3. External Training Programmes: 61 per cent of the sample organizations sponsored their employee in the last accounting year to training programmes organized by external agencies. The names of these agencies and the number of organizations that sponsored their employees to such training programmes are given in Table 2. The following conclusions can be drawn from data in Table 2.

1. Indian organizations seem to have a very wide choice of external agencies offering different kinds of training programmes. In one year, the sample organizations have sponsored their employees to approximately 50 agencies (including those in Exhibit 5).
2. Agencies vary in terms of the mix of programmes for various segments of employees. Some offer programmes for managers only (ASCI, IIMs, Xavier Labour Relations Institute) while others offer programmes for supervisors as well (Indo-American Society), and yet others mount training programmes for all class of employees.
3. Most organizations seem to sponsor a large number of their employees to the All India Management Association and its local chapters, and the National Productivity Council and its local chapters and professional associations. Of the three institutes of management, IIM, Ahmedabad seems to attract a larger number of organizations. Surprisingly, private consultants also attract a sizeable number of organizations to sponsor their employees for training programmes organized by them.

Table 2

Sponsorship to external programmes

Agencies	No. of organi- zations	Managers	Super- visors	Workers
Administrative Staff College, Hyderabad	12	15	-	-
All India Management Association*	28	113	59	18
External programmes organized for companies**	8	18	4	5
Indian Institute of Management, Ahmedabad	13	32	-	-
Indian Institute of Management, Bangalore	4	9	-	-
Indian Institute of Management, Calcutta	2	2	-	-
Indo-American Society	3	7	2	-
National Productivity Council*	19	36	71	109
Xavier Labour Relations Institute	5	5	-	-
National Institute of Training of Industrial Engineers	10	55	8	-
Professional Associations (See Exhibit 5)	28	80	98	206
Private Consultants	16	48	-	4
Others***	7	11	2	15
	<u>155</u>	<u>431</u>	<u>244</u>	<u>357</u>

* Includes local chapters

** Like Computer Maintenance Corpn., BHEL, Tata Steel Training Centre etc.

*** Include Indian Society of Training and Development, Central Labour Institute, Gandhi Labour Institute, Indian Institute of Foreign Trade, National Institute of Banking Management, IIT (Kharagpur), IIT Madras.

4. On the basis of data given in Table 2, it seems that on an average 2.7 managers, 2.3 supervisors and 3.3 workers are sponsored per programme. Subsequent analysis isolating organization specific programmes reveals that on an average the **pattern** of sponsorship of 2 managers, 1 supervisor, and about 0.3 worker per programmes is followed. The results suggests that more managers are sponsored to external programmes than supervisors and workers. In fact as far as workers' category is concerned the sponsorship to external problems is very nominal: just about 1 worker per three programmes is sponsored.

Based on the data provided by 24 organizations on the nature and duration of the external programmes to which managers were sponsored, the number of programmes by areas and duration for the last accounting year were worked out (See Table 3).

Table 3
Training programmes and their duration

Area	No. of programmes	Total duration (in days)	Average duration
Computer and information systems	10	73	7.3
General Management	24	171	7.1
Finance and Accounting	15	47	3.1
Marketing	10	80	8.0
Organizational Behaviour	11	32	2.9
Personnel & Industrial Relations	18	46	2.5
Production	35	159	4.5
Total	<u>123</u>	<u>608</u>	<u>4.9</u>

The results suggest that of the total number of external programmes to which managers were sponsored, the largest number went to programmes in production field. This was followed by general management programmes. Though the least number was sponsored to programmes in marketing, the average duration per programme in marketing was 8 days. It seems that the programmes offered in personnel and industrial relations areas were comparatively for short duration followed by organizational behaviour and finance and accounting programme. Overall it could be said that the duration of the programmes varied between 2 days and 10 days. Unfortunately, not enough data on external programmes for supervisors were made available to draw meaningful conclusions.

Regarding sponsorship to foreign programmes, during the last accounting year, 14 sample organizations had sent their employees abroad. Most of them sent their managers to the training programmes organized by collaborators. These programmes varied in duration from 2 weeks to 4 months and were organized in the USA, Japan, and West Germany.

Training Evaluation

Perhaps as a feedback mechanism, it is necessary to evaluate the effectiveness of training in bringing about the desired results and/or changes. Such an evaluation presents an opportunity for the organizations to make adjustments in their choices of training courses or redesigning the

existing **training packages**. Since this is a crucial stage in training activities several questions on the practices of evaluating training **uses** were asked to the organizations. The results indicate that as many as 57.1 per cent of the organizations asked the immediate supervisors to report on the improvement of performance of the employee sent for training. In 16.3 per cent of the cases such evaluations were made by involving external consultants.

In seeking this feedback from immediate supervisors, improvements in such aspects as general behaviour and attitude, job knowledge and skills, and overall work performance were used as indicators for both managers and supervisors by a majority of the organizations. This feedback was sought both formally as well as informally. In cases where employees were sent for specific skill development, a close watch was kept to see if training had made a difference.

Organizations insist on formal feedback from employees who have attended the training programmes. As many as 69.3 per cent of the organizations asked their employees to provide formal reports of their assessment of training programmes as far as in-house programmes were concerned. For the programmes organized by external agencies the percentage was 65.3%. Such reports become a part of the overall training activity in the organizations and are used to bring about appropriate modifications in training activities.

As far as in-company training programmes are concerned, organizations use the participants' feedback reports for following purposes. The percentages of the organizations endorsing these purposes are also provided along with.

Modify contents of the programme	67.3
Repeat the programme	65.3
Change duration of the programme	63.2
Change faculty	46.9
Drop the programme	44.8

A majority of the organizations take the participants' feedback seriously in modifying the contents, deciding to repeat the programme, adjusting the duration of the programme, and choice of faculty. In fact, if the feedback is not up to the mark, 44.8 per cent of the organizations discontinue the programme.

If the participants' feedback on the programme organized by external agencies are negative, 34.6 per cent of the organizations would not sponsor their employees to that specific agency and 44.8 per cent of the organizations would not send their employees to that programme. However, if the feedback reports are positive they would sponsor more of their employees to the programmes offered by that external agency (57.1%) and to the specific programme (51.0%). It seems that organizations rely heavily on the participants' feedback. In fact our results suggest that only 4 organizations have taken the help of external consultants in the last five years in estimating the effectiveness of training programmes.

Concluding Remarks

This survey was undertaken to examine the state-of-art of the training function in India. It covered such areas as manning of training departments, training infrastructure and cost, methods used to identify training needs, nature and durations of training programmes and evaluation of training effectiveness. Some major findings are summarized below:

1. One third of the organizations have separate training departments under manager (training) who reports directly to the highest position in the personnel department. Most of these managers are professionally trained. Training departments which are not separate units are unfortunately managed by those who do not seem to have basic professional qualifications though they are sent to short duration training programmes.
2. While one third of the organizations have separate training department, only a few have fully equipped training infrastructure including teaching faculty of their own. Most seem to depend on others for training.
3. A very small portion (.017%) of the total budget of human resources is spent on training.
4. Training needs in majority of the cases are identified on the basis of annual appraisal, growth and diversification/business. In 42.8% of the cases, managers themselves identifying their training requirements. Very few organizations seek the help of external consultants in identifying training needs. In case of supervisors appraisal feedback and in case of workers, recommendations of immediate supervisor are major input for training requirements. Transfers and promotions also provide opportunities for training for managers and supervisors though mechanisms used for such training varying across organizations and levels.

5. More than two-third organizations, have the institution of induction training for managers, supervisors, and workers. The focus of induction training varies according to the category of employee and duration of such training decreases with decreasing levels. With decreasing level the focus of induction training shifts to productivity, welfare and safety.
6. As far as in-company programmes are concerned more reliance is placed on internal faculty for the training of workers. While for managers external faculty is the major sources of training.
7. A large number of managers are sponsored to external programmes compared to supervisors and workers. Most managers participated in programmes on production followed by general management.
8. A large number of organizations take post training feedback and evaluation seriously and make adjustments in their training plans accordingly.

While the survey results provide an overall picture of the training functions in India, a large sample would have helped in **undertaking** more comprehensive analysis of some of the aspects of training.

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1. What is the nature of your industry ? (Tick as many as applicable)
- | | | |
|--|---|--|
| <input type="checkbox"/> Automotive | <input type="checkbox"/> Banking & Insurance | <input type="checkbox"/> Coal |
| <input type="checkbox"/> Electrical Products | <input type="checkbox"/> Electronics | <input type="checkbox"/> General Engineering |
| <input type="checkbox"/> Steel | <input type="checkbox"/> Textile | <input type="checkbox"/> Paper |
| <input type="checkbox"/> Printing & Publishing | <input type="checkbox"/> Leather | <input type="checkbox"/> Mining |
| <input type="checkbox"/> Trading | <input type="checkbox"/> Service (please specify) _____ | |
| <input type="checkbox"/> Any other (specify) _____ | | |
2. How old is your organization ?
- | | |
|--|--|
| <input type="checkbox"/> 5 years or less | <input type="checkbox"/> 6 - 10 years |
| <input type="checkbox"/> 11 - 15 years | <input type="checkbox"/> 16 - 20 years |
| <input type="checkbox"/> 21 - 25 years | <input type="checkbox"/> 26 - 30 years |
| <input type="checkbox"/> 31 - 35 years | <input type="checkbox"/> 36 or more |
3. What is your product(s)/service(s) ? _____
4. As of *last accounting year* what was your employees strength ?
- | | |
|----------------|-------|
| 1. Managers | _____ |
| 2. Supervisors | _____ |
| 3. Workers | _____ |
5. What has been your average annual turnover over the *last five years* ? Rs. _____
6. What was your turnover in the *last accounting year* ? Rs. _____
7. What was your percentage cost of the human resources over the total turnover in the *last accounting year* ? _____
8. Did you make profit after tax last year ? Yes No
9. Where is your head office ? (Name of the city) _____
10. Are you collaborating with any foreign organization ? Yes No
11. If yes, please give its name and country
 Name _____ Country _____
12. Are you
- | |
|---|
| <input type="checkbox"/> A public sector undertaking |
| <input type="checkbox"/> A private sector undertaking |
| <input type="checkbox"/> A joint venture |
| <input type="checkbox"/> Any other (specify) _____ |
13. Have you acquired funds from (tick as many as applicable)
- | | |
|---|--|
| Public issues | <input type="checkbox"/> Financial Institutions |
| <input type="checkbox"/> Shares | <input type="checkbox"/> Banks |
| <input type="checkbox"/> Debentures | <input type="checkbox"/> Any other (specify) _____ |
| <input type="checkbox"/> Fixed deposits | <input type="checkbox"/> None of the above |

PART II

1. Do you have a separate Training Department? Yes No

If YES, please indicate

2. When was the separate training department established? (Year) _____
3. The designation of person incharge of separate training department _____
4. Staff strength in training department.

Positions	Numbers
_____	_____
_____	_____
_____	_____
5. The incharge of training department reports to _____
6. His qualifications

First formal degree

 High School
 Intermediate (10+2)
 Bachelors
 Masters
 Ph.D.
7. His first formal degree is in

<input type="checkbox"/> Arts	<input type="checkbox"/> Pharmacy
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Medical
<input type="checkbox"/> Commerce	<input type="checkbox"/> Law
<input type="checkbox"/> Engineering	<input type="checkbox"/> Social Work (msw)
<input type="checkbox"/> Science	<input type="checkbox"/> Labour Welfare (mlw)
<input type="checkbox"/> Management	<input type="checkbox"/> Any other (Specify) _____
8. Professional qualifications, if any (please specify). _____
9. How long has he been with you _____ years
10. How long has he been incharge of Training Department _____ years

If No, please indicate

11. Who is incharge of training in your organization? Designation : _____
12. What other functions does he perform : _____
13. Whom does he report to _____
14. How long has he been in the organization? _____ years
15. How long has he been looking after training functions _____ years
16. His qualifications :

First formal degree ?

 High School
 Intermediate (10+2)
 Bachelors degree
 Masters degree
 Ph.D.
17. His first formal degree is in

<input type="checkbox"/> Arts	<input type="checkbox"/> Pharmacy
<input type="checkbox"/> Commerce	<input type="checkbox"/> Medical
<input type="checkbox"/> Engineering	<input type="checkbox"/> Law
<input type="checkbox"/> Science	<input type="checkbox"/> Social Work (msw)
<input type="checkbox"/> Management	<input type="checkbox"/> Labour Welfare (mlw)
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Any other (specify) _____
18. Professional qualifications if any (please specify) _____

19. Have you ever sent your training incharge to external training programme? Yes No
20. If Yes, indicate the
 Name(s) of training organization _____
 Title(s) of training programme _____
 Duration(s) of training programme _____
 Was this an Indian or foreign training programme(s)? Indian Foreign

21. During the last accounting year how many *in-company* training programmes were organized by you.

Programmes for
Managers Supervisors Workers

Using only internal faculty _____
 Using external consultants only _____
 Involving both _____

22. How many employees were trained in the *last accounting year*? (in company pro.)

Managers Supervisors Workers

Using internal faculty only _____
 Using external consultants only _____
 When both were involved _____

23. How do you decide to offer *in company* training programme? (Tick as many as applicable)

- | | |
|--|--|
| <input type="checkbox"/> availability of external consultant | <input type="checkbox"/> specific need based programmes identified at planning stage |
| <input type="checkbox"/> availability of sufficient participants | <input type="checkbox"/> pressure from Unions/Associations |
| <input type="checkbox"/> pressure from certain department(s) | <input type="checkbox"/> cost considerations |
| <input type="checkbox"/> pressure from employees | <input type="checkbox"/> Any other (specify) _____ |

24. Please give titles of *in company* training programmes organized during the *last accounting year*

Titles

For Managers _____
 For Supervisors _____
 For Workers _____

25. Listed below are a number of training techniques. Please indicate those which were used for *in-company* training programmes during the *last year* for the three groups of employees (tick as many as applicable).

	Managers	Supervisors	Workers
Straight lectures	_____	_____	_____
Lectures-cum-discussion	_____	_____	_____
Role play	_____	_____	_____
Close Video Recording circuit	_____	_____	_____
Educational films	_____	_____	_____
Case method	_____	_____	_____
Simulation techniques	_____	_____	_____
Computer games	_____	_____	_____

(msw)
fare

any

	Managers	Supervisors	Workers
Group exercises	_____	_____	_____
Sensitivity training	_____	_____	_____
Seminars	_____	_____	_____
Syndicate method	_____	_____	_____
Presentations only	_____	_____	_____
Plant visits	_____	_____	_____
Any other (specify)	_____	_____	_____

26. What kind of training facilities do you have ? (tick as many as applicable)

- Full-fledged training college
- Library (more then 100 books)
- Just a class room
- Residential facilities
- Audio-Visual equipment
- Trainers on the permanent payroll
- Training Secretariat
- Any other (specify) _____

27. During the *last accounting year* how many employees were sponsored to *external* programme (exclude incharge of training activity). Please indicate numbers against relevant columns and rows.

<i>External Agency</i>	Managers	Supervisors	Workers
IIM, Ahmedabad	_____	_____	_____
IIM, Calcutta	_____	_____	_____
IIM, Bangalore	_____	_____	_____
National Productivity Council	_____	_____	_____
Local Management Associations	_____	_____	_____
All India Management Association	_____	_____	_____
Administrative Staff College	_____	_____	_____
Xavier Labour Institute	_____	_____	_____
International of Management Institute	_____	_____	_____
NITIE	_____	_____	_____
IITs	_____	_____	_____
Other (specify)	_____	_____	_____

28. Please list the titles and duration of the training programmes offered by *external* agencies where your managers and supervisors were sponsored (*For last accounting year*). Attach extra sheet, if necessary.

	<i>Titles</i>	<i>Duration</i>
Managers		
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
Supervisors	Programmes	Duration
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____

29. During the *last accounting year* did you sponsor employees to training programmes abroad? Yes No

30. If yes, please indicate :

For Managers

Name(s) of the training organization _____
Title(s) of the training programme _____
Duration(s) of the training programme _____
Total cost in Indian Rupees _____

For Supervisors

Name(s) of the training organization _____
Title(s) of the training programme _____
Duration(s) of the training programme _____
Total cost in Indian Rupees _____

31. If No, have you *ever* sponsored your employees to foreign training programmes? Yes No

32. How much did you spent on training during the *last accounting Year*? Rs _____

33. How was the volume of training budget decided?
 by chief executive by training incharge in consultation with chief executive
 by a team of top managers Any other (specify) _____
 by training incharge alone

34. Is the training budget allocated by department? Yes No

35. Is the training budget allocated by positions? Yes No

36. Is the training budget allocated by training organization/agencies? Yes No

37. After a suitable time period do you ask the supervisors to report on improvements if any on the employees sent for training? Yes No

38. What indicators are generally used to see if training has made a difference?

For Managers _____
For Supervisors _____
For workers _____

39. Have you ever involved external consultants in evaluating training effectiveness? Yes No

40. Do you ask employees to formally report their assessment of training programme?
For In-company training Yes No

For training by external agencies Yes No

For training abroad Yes No

41. Are the formal feedback reports by employees used (for *in-company* programmes only)

In deciding whether to repeat the programme

To change the duration of the programme

To modify contents

To change faculty

To drop the programme _____

62. How often training need data (see question 61) is utilized in deciding the training requirements of the managers/supervisors ?

	Managers	Supervisors
Always	_____	_____
Often	_____	_____
Seldom	_____	_____
Never	_____	_____

63. Please tick those statements which *truly* represent the practices in your organization (tick as many as applicable)

- Performance evaluation is followed by performance counselling meeting wherein training needs are jointly identified by employee and his/her superior.
- There is no counselling session, but training needs are identified by a committee consisting of the employee's superior, the departmental head and the training manager.
- Performance appraisal and subsequent identification of training needs is entirely confidential.
- On the basis of the performance appraisal, employee is allowed to suggest his own training needs.
- After individual performance is appraised group meeting within department decide training needs of individual employee.
- The concerned department head alone determines training needs of each individual employee in his department.
- After a particular training the employee is *usually* appropriately placed.
- After a particular training the employee is *always* appropriately placed.

64. Are you a multi-unit/multi-product organization? Yes No

65. If yes, do you have a policy to transfer your managerial/supervisory personnel from one unit/product to another unit/product.

Managers	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Supervisors	<input type="checkbox"/> Yes	<input type="checkbox"/> No

66. If Yes in 65 above, how do you prepare them for new responsibilities (tick as many as applicable).

	Managers	Supervisors
<input type="checkbox"/> In-house training	_____	_____
<input type="checkbox"/> In-house training with external consultants	_____	_____
<input type="checkbox"/> Training by external agencies	_____	_____
<input type="checkbox"/> On the job training	_____	_____
<input type="checkbox"/> Send abroad for training	_____	_____
<input type="checkbox"/> Any other (specify)	_____	_____



THANK YOU

EXHIBIT 2List of Participating Companies

<u>Sr. No.</u>	<u>Name of the company</u>	<u>City</u>
1.	Ahmedabad Electricity Co. Ltd.	Ahmedabad
2.	Aurangabad Asbestos	Aurangabad
3.	Bagalkot Udyog Ltd.	Bijapur
4.	Bank of Madura Ltd.	Madras
5.	Berger Paints India Ltd.	Calcutta
6.	Bharat Pipes & Fittings Ltd.	Bombay
7.	Bhilwara Processors Ltd.	Bhilwara
8.	Comfortaire Imex Pvt. Ltd.	Secunderabad
9.	Escorts Ltd.	Delhi
10.	ESKAYEF	Bangalore
11.	Excel Industries Ltd.	Bhavnagar
12.	Guest Keen Williams Ltd.	Howrah
13.	Gujarat Steel Tubes	Ahmedabad
14.	Gujarat Tractor Corpn.	Baroda
15.	Hindustan Zinc Ltd.	Udaipur
16.	Hoechst India Ltd.	Bombay
17.	IFFCO	Kalol
18.	Indian Seamless Metal Tubes Ltd.	Poona
19.	Jalawahini Pipes	Mysore
20.	Kirloskar Electric Co. Ltd.	Poona
21.	Krishak Bharati Coop. Ltd.	Surat
22.	Malabar Cements Ltd.	Palghat
23.	Maruti Udyog Ltd.	Delhi
24.	MM Publications Ltd.	Kottayam
25.	Narbheram & Co. Ltd.	Jamshedpur
26.	OEN India Ltd.	Cochin
27.	Reliance	Ahmedabad
28.	Richardson Hindustan Ltd.	Bombay
29.	Roche Products Ltd.	Bombay

Exhibit 2 Cont'd.

30.	Salem Steel Plant	Salem
31.	Sandvick Asia Ltd.	Poona
32.	Sanghi Engineers	Jaipur
33.	Servo Electronics	Delhi
34.	Sriram Foods & Fertilizers Industries	Delhi
35.	Standard Woven & Wires	Bombay
36.	Steelworths	Assam
37.	Stovec Screens India Ltd.	Ahmedabad
38.	Stree Light Electric Company	Faridabad
39.	Superphone India	Bombay
40.	Tamil Nadu Magnesite Ltd.	Madras
41.	The Cotton Corpn. of India Ltd.	Bombay
42.	Tobacco Products Ltd.	Jalna
43.	Transport Corporation	Secunderabad
44.	Trimurtee Fertilizers	Lucknow
45.	TTK Pharma Ltd.	Madras
46.	UP State Cement Corporation Ltd.	Mirzapur
47.	Vijaya Bank	Bangalore
48.	Walchandnagar Industries Ltd.	Poona
49.	Windsor Food Ltd.	Baroda

EXHIBIT 3

<u>Nature of industry</u>	<u>No. of organizations</u>
1. Automotive	5
2. Bank & Insurance	2
3. Chemicals	3
4. Cement	4
5. Electrical Products	1
6. Electronics	4
7. Fertilizer	3
8. Food	1
9. General Engineering	9
10. Mining	2
11. Pharmaceuticals	5
12. Publishing	1
13. Plastic	2
14. Steel	1
15. Textile	4
16. Tobacco	1
17. Transport	1
	<hr/>
Total	49

EXHIBIT 4

DISTRIBUTION OF ORGANIZATIONS
(EXISTENCE OF SEPARATE TRAINING
DEPARTMENT BY OTHER CHARACTERISTICS)

Characteristics	Existence of separate training department		Value of Chi-square
	Yes	No	
1. AGE			
0-15 years	7	10	2.59
16-30 Years	8	9	
31 and above	3	12	
2. MANAGERS EMPLOYED			
100 or less	4	24	13.45**
More than 100	11	5	
3. WORKERS EMPLOYED			
500 or less	3	19	6.72**
More than 500	11	11	
4. 5 YEAR TURNOVER			
10 crores or less	4	20	4.23*
More than 10 crores	9	11	
5. TURNOVER LAST ACCOUNTING YEAR			
10 crores or less	3	16	5.43*
More than 10 crores	12	12	
6. SECTOR			
Private	10	22	0.10
Public	4	7	
7. COLLABORATION			
Yes	10	9	3.06
No	8	21	
8. ZONE			
West	5	12	0.37
East	2	4	
North	5	8	
South	5	8	
9. COST OF HUMAN RESOURCES			
Less than 8%	7	11	0.35
8% or more	5	12	

* P < .05 ** P < .01

EXHIBIT 5Professional Associations

1. Ahmedabad Industrial Employers Union, Ahmedabad.
2. Central Mechanical Engineers Institute, Durgapur.
3. Computer Association of India, Bombay.
4. Deccan Sugar Technologists Association, Pune.
5. Electrical Research & Development Association, Bombay.
6. Environmental Protection and Research Foundation, Sangli.
7. Indian Gear Manufacturing Association, Bombay.
8. Indian Institute of Industrial Engineers, Hyderabad.
9. Indian Institute of Materials Management.
10. Indian Institute of Metals.
11. Indian Paint Association.
12. Indian Society of Advertisers.
13. Institute of Cost and W/AC's of India.
14. Institute of Electricals & Electronics Engineers, Delhi.
15. Institute of Engineers, New Delhi.
16. Institute of Marine Engineers, New Delhi.
17. Loss Prevention Association of India, Bombay.
18. Maharashtra Industrial & Technical Organizations.
19. National Institute of Personnel Management.
20. Oil Technologists of India.
21. Petroleum Conservation Research Association, Bombay.
22. Press Club of India.
23. Quality Circle Forum of India.
24. Society for Advancement of Electro Chemical Techniques.
25. Sugar Technologists Association of India, Kanpur.

