EFFECTIVENESS OF TRAINING EVALUATION PRACTICES - AN EMPIRICAL STUDY

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Abstract : *The business organizations are displaying decreasing willingness to spend money on faith and an increasing pressure to justify training and development (T&D) costs owing to variety of competitive factors. It is imperative for those in the field to focus on evaluation of training & development and to adequately and properly demonstrate and communicate to the management that "training efforts are making worthwhile contributions to organizational productivity". The major purpose of evaluation is to determine the effectiveness of the various components of a training and development programme. To accomplish this sample of two hundred and sixty seven respondents are selected. The key issues discussed in this paper include the major factors influencing the training evaluation practices of the respondents from service sector units in Karnataka. The researcher has considered seven independent variables (ownership pattern, nature of main business, ISO accreditation status, workforce size, age of the unit, stage of the organisational life cycle, and degree of corporate commitment to training and development) for ascertaining the possible association with the dependent variable training evaluation practices. For the purpose of this analysis, training evaluation practices were examined under three categories (only training evaluation, both training needs analysis and evaluation, and no evaluation. The results and discussions were based on the chi-square test of significance (X2) initially and later on, multiple regression analysis (MRA) was used to draw inferences. Finally, all the three research hypotheses formulated have been been discussed in detail.*

Key Words : *Training and Development, Training Evaluation, Corporate Commitment*

INTRODUCTION

The economic realities of the 2000s and beyond, however, resulted in a closer scrutiny of training and development expenditures. An increasing number of organizations are raising questions concerning the return on these T & D investments. The business organizations are displaying decreasing willingness to spend money on faith and an increasing pressure to justify training and development costs due to spectrum of factors, both financial and human facts. In this context, it is imperative for those in the industry to focus on evaluation of training and development and to adequately and properly demonstrate and communicate to management that training efforts are making worthwhile contributions.

CONCEPTUAL FRAMEWORK

Evaluation of training is normally used in a broad sense to mean any attempt to obtain information (feedback) on the effects of a training programmes, and to assess the value of the training interventions in the light of that information. According to some experts on the evaluation of training, a distinction is made between validation (the assessment of

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whether the training has achieved its laid-down objectives) and evaluation (the measurement of the total effects of the training programme). In practice, however, this distinction is not always meaningful, since it may be almost impossible to obtain information on the total effects of training (which may be extremely complex).

The process of evaluating training and development has been defined by Hamblin (1974) as: "any attempt to obtain information (feedback) on the effects of a training programme, and to assess the value of the training in the light of that information". Warr (1969) defined evaluation as "the systematic collection and assessment of information for deciding how best to utilise available training resources in order to achieve organisational goals". From these definitions it follows that evaluation leads to control which means deciding whether or not the training and development was worthwhile (preferably in cost-benefit terms) and what improvements are required to make it even more efficient and effective.

Evaluation, in its crudest form, is the comparison of objectives (criterion behaviour) with effects (terminal behaviour) to answer the question of "how far the training has achieved its purpose?". The setting of objectives and the establishment of methods of measuring results are, or should be, an essential part of the planning stage of any training and development programme. Evaluation can be difficult because it is often hard to set measurable objectives and even harder to collect the information on the results or to decide on the level at which the evaluation should be made.

RESEARCH OBJECTIVES

The main objective of the study is to assess the effectiveness of training and evaluation practices in service industries. However, the specific objectives are as follows -

- To determine whether or not the training and development objectives are being met.
- To determine the effectiveness of the different components of a training and development programme (e.g., content, training aids, facility and environment, programme schedule, presentation style, the instructor,etc.).
- To examine stage of the Organisation Life Cycle Training Evaluation Practice.
- To study the stage of the Organization Life Cycle (OLC) and the training evaluation practices.
- To examine the degree of Corporate Commitment to T&D and Training Evaluation Practices.

HYPOTHESIS

The current research was undertaken with following three hypotheses and subsequent testing was done.

H1: There exists a positive and significant correlation between the level of corporate commitment to training and development and robustness of training evaluation practices.

H2: Organisational characteristics tend to influence the rigorousness of training evaluation practices.

H3: Physical, social and psychological conditions prevalent in the workplace have got significant impact on the nature and extent of transfer of learning from the place of training to the workplace.

METHODOLOGY

At this juncture, it is both relevant and interesting to identify the major factors influencing the 'training evaluation practices' of the respondent industrial units in Karnataka. The researcher considered seven 'independent variables' for ascertaining the possible association with

the 'dependent variable' – training evaluation practices. In line with the existing research tradition pertaining to this domain (Brewster & Bournois, 1991; Brewster & Hegewisch, 1994; Hendry & Pettigrew, 1990; Fujita, 1997; Kandula, 2001; Moore & Ashby, 1996; Ravi, 2001), the independent variables were: (1) ownership pattern, (2) nature of main business, (3) ISO accreditation status, (4) workforce size, (5) age of the unit, (6) stage of the organisational life cycle, and (7) degree of corporate commitment to Training and Development (T&D). For the purpose of this analysis, 'training evaluation practices' were examined under three categories: (1) only training evaluation, (2) both 'training needs analysis (TNA) and evaluation, and (3) no evaluation. The results and discussions were based on the chi-square test of significance (X2) initially and later on, multiple regression analysis (MRA) was used to draw inferences. Accordingly, the key findings and inferences were based on 267 respondents representing private, public and multinational enterprises mainly engaged in either manufacturing or service operations in Karnataka on the one hand, and diagnostic assessment of views, perceptions, facilitators and inhibitors of 'transfer of learning' with the help of responses elicited from 297 employees who received training.

Discussion

ORGANISATIONAL CHARACTERISTICS AND TRAINING EVALUATION PRACTICE

Ownership Pattern and Training Evaluation Practice

The data and information relating to ownership pattern of the respondent industrial units and their training evaluation practices are shown in table 1.1, an overwhelming proportion of a little over 88 per cent of the multinational corporations (MNCs) conducted both training needs analysis (TNA) and training evaluation. The corresponding percentages in respect of private and public sector organisations were 64.7 and 43 respectively. Furthermore, around 30 per cent of the public sector and 13.7 per cent of the private sector respondent units did not have the policy and practice of measuring and assessing the effectiveness of their T&D programmes. In this context, MNCs emerged as the 'trend setters' followed by the private and public sector organisations - in that order. Presumably, MNCs are resource–rich and they have a tendency to import their home-country HRD practices to the host-country. Accordingly, their training evaluation practices are no exception to this acknowledged trend. (Brewster & Hegewisch, 1994; Martinsons & Chong, 1999).

Table - 1.1 : Ownership pattern and training evaluation practices

Ownership pattern	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
Private Companies	22 (21.6)	66 (64.7)	14 (13.7)	102 (100.0)
Public Companies	31 (27.2)	49 (43.0)	34 (29.8)	114 (100.0)
MNCs	06 (11.8)	45 (88.2)	0 (0.0)	51 (100.0)
	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) X2 = 35.52; df = 4; p = 0.000 < 0.01 HS

Nature of main Business and Training Evaluation Practice

As far as the nature of main business of the industrial units and their training evaluation practices were concerned, nearly 63 per cent of the organisations mainly engaged in the provision of 'services' and 58 per cent of the manufacturing units reported the practice of conducting 'training needs analysis' and 'training evaluation'. However, a little over 23 per cent of these organisations did not have the practice of evaluating the effectiveness of their T&D programmes (Table 1.2).

Table - 1.1 : Ownership pattern and training evaluation practices

Nature of main business	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
Manufacturing	29 (18.8)	89 (57.8)	36 (23.4)	154 (100.0)
Service	30 (26.5)	71 (62.8)	12 (10.6)	113 (100.0)
	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) X2 = 7.933 ; df = 2; p = 029< 0.05, sig.

ISO Accreditation Status and Training Evaluation Practice

It is worth noting that an overwhelming proportion of 84 per cent of the respondent units with ISO accreditation carried out both training needs analysis and evaluation of T&D programmes. Of course, the remaining 16 per cent conducted 'only training evaluation'. Again, nearly 57 per cent of those units who were in the process of getting ISO certified reported their practice of conducting training evaluation. In contrast, a little over 54 per cent of the non-ISO respondent organisations had no mechanism of evaluating the effectiveness of their T&D programmes (Table 1.3). From this analysis, it follows that 'ISO accreditation' acts as a key driver for incorporating more rigorous and innovative mechanisms for measuring and assessing the contributions of T&D programmes.

Table – 1.3 ISO accreditation status and training evaluation practices

ISO accreditation status	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
ISO accredited	26 (16.0)	136 (84.0)	0 (0.0)	162 (100.0)
In the process	21 (56.8)	05 (13.5)	11 (29.7)	37 (100.0)
Non-ISO	12 (17.7)	19 (27.9)	37 (54.4)	68 (100.00)
	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) X2 = 158.42; df = 4; p =0.000<0.01, HS

Workforce Size and Training Evaluation Practice

With regard to the 'workforce size' of the industrial units and their training evaluation practices, only just over 9 per cent employing fewer than 100 persons reported the practice of conducting both training needs analysis and evaluation. The corresponding percentage in the case of those units having the workforce size in the range of 101-300 was 40.4, while the respondent units with a workforce size falling between 301 and 1000 conducting both training needs analysis and evaluation accounted for a little over 75 per cent. Finally, a significant proportion of around 83 per cent of the units employing more than 1000 persons reported their practice of analysing training needs and evaluating training and development programmes. It is also worth reporting that a little over 43 per cent with a workforce size of fewer than 100 did not have the practice of training evaluation. Intuitively, as the workforce size increases, the tendency of the organisations in conducting both training needs analysis and evaluation also increases (Table 1.4).

Table – 1.4 Workforce size and training evaluation practices

Workforce size in Industries	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
< 100	21 (47.7)	04 (9.1)	19 (43.2)	44 (100.0)
100-300	17 (32.7)	21 (40.4)	14 (26.9)	52 (100.0)
301 – 1000	12 (13.5)	67 (75.3)	10 (11.2)	89 (100.0)
> 1000	09 (11.0)	68 (82.9)	05 (6.1)	82 (100.0)
Total No. of Industries	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) $X2 = 82.87$; $df = 6$; $p = 0.000 < 0.01$, HS

Age of the Organisation and Training Evaluation Practice

As far as the age of the industrial units and their training evaluation practices were concerned, 49 per cent aged below 10 years conducted only training evaluation. Around 39 per cent of them did not have the practice of evaluating their T&D programmes. On the other hand, 73.2 per cent of the respondent units in the age group of 10-20 years and 63 per cent of those aged more than 20 years reported the practice of analysing their training needs and evaluating training and development programmes (Table 1.5). It appears that the practice of conducting both training needs analysis and evaluation tends to be relegated to the backburner in the formative years of their existence.

Table – 1. 5 Age of the unit and the training evaluation practices

Age of the unit (in years)	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
< 10	24 (49.0)	06 (12.2)	19 (38.8)	49 (100.0)
10-20	22 (13.4)	120 (73.2)	22 (13.4)	164 (100.0)
>20	13 (24.1)	34 (63.0)	07 (12.9)	54 (100.0)
	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) X2 = 59.63; df = 4; p = 0.000< 0.01, HS

Stage of the Organisation Life Cycle and Training Evaluation Practice

As seen in table 1.6, as many as 68 per cent of the respondent units in the 'growth stage' and 67 per cent in the 'maturity stage' of their life cycle reported the practice of conducting 'both training needs analysis and evaluation'. In contrast, not even a single unit belonging to the 'start-up stage' or 'turned-around stage' of life cycle adopted this training evaluation practice. In fact, the sense of priority and urgency of conducting both training needs analysis and evaluation should be felt increasingly more at start-up, decline and turned-around stages of organisational life cycle than at the stages of 'growth' and 'maturity'. This trend is perhaps indicative of the fact that T&D is based on an article of faith and the seriousness of analysing training needs and evaluating T&D programmes would be lost during the formative (teething) years and also the decline phase of the organisation's economic life (Budhwar, 1996, 2000; Ford, 1993).

Table – 1. 6 Stage of the organisation life cycle (OLC) and the training evaluation practices

Organisational life cycle	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
Start–up	03 (21.4)	0 (0.0)	11 (78.6)	14 (100.0)
Growth	24 (18.2)	90 (68.2)	18 (13.6)	132 (100.0)
Maturity	18 (18.6)	65 (67.0)	14 (14.4)	97 (100.0)
Decline	08 (61.5)	05 (38.5)	0 (0.0)	13 (100.0)
Turned around	06 (54.5)	0 (0.0)	05 (45.5)	11 (100.0)
	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes: (1) Figures in parentheses indicate percentages to the respective total.
(2) X2 = 70.35 ; df = 8; p = 0.000< 0.01, HS

Degree of Corporate Commitment to Training & Development and Training Evaluation Practice

In the fitness of things, it is widely acknowledged both at the academic and practitioner circles that training evaluation practices would assume prominence only when the senior management extends support, involvement and commitment to the cause of rigorously measuring and assessing the effectiveness of training and development programmes on the one hand, and the performance of training and development department on the other. Not surprisingly, there might exist a positive, significant correlation between the degree of corporate commitment to training and development, and the training evaluation practices of the respondent units.

As detailed in table 1.7, as many as a little over 77 per cent of the respondent organisations indicating "high" corporate commitment to training and development carried out both training needs analysis and evaluation. The corresponding percentages in respect of those units reporting "moderate" and "low" corporate commitment to training and development were only 48.1 and 18 percent respectively. Furthermore, decreasing corporate commitment (from high to low) also coincided with the practice of not measuring and assessing the contributions of training and development programmes. Because, nearly 38 per cent of the organisations characterised by 'low' corporate commitment and 14.5 per cent with 'moderate' commitment to training and development did not conduct training evaluation. Hence, higher the degree of corporate commitment to training and development initiatives, greater will be the likelihood of adopting the practice of analysing training needs and evaluating the effectiveness of the T&D programmes.

Table – 1. 7 Degree of corporate commitment and training evaluation practices

Degree of corporate commitment to T&D	Training Evaluation Practices			TOTAL
	Only training evaluation	Both TNA & evaluation	No evaluation	
High	11 (14.7)	58 (77.3)	06 (8.0)	75 (100.0)
Moderate	49 (37.4)	63 (48.1)	19 (14.5)	131 (100.0)
Low	27 (44.3)	11 (18.0)	23 (37.7)	61 (100.0)
Total No. of Industries	59 (22.1)	160 (59.9)	48 (18.0)	267 (100.00)

Notes:

(1) Corporate commitment to T&D is measured and assessed based on generally accepted 10 indicators such as:

a) Percent of payroll spent on T&D,

b) T&D money spent per employee,

c) average number of T&D hrs per employee per year,

d) Percent of employees trained per year,

e) HRD / T&D staff per 1000 employees,

f) strategic role and T&D,

g) seriousness attached to T&D by senior management.,

h) understanding T&D issues by senior management.,

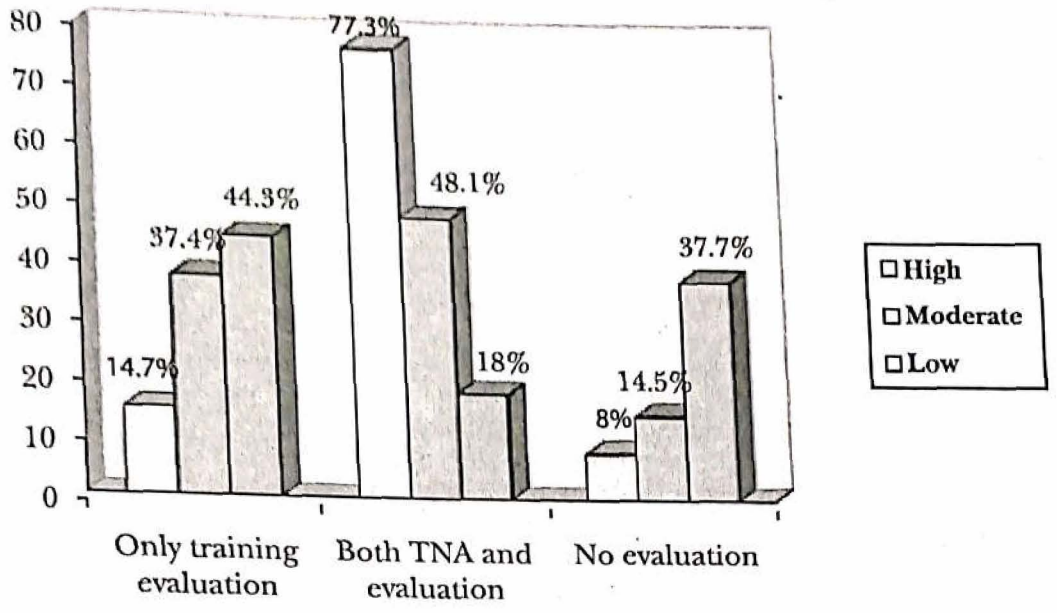
i) difficulty in getting adequate and timely assistance from senior management to develop training and development strategies, and

j) presence of training and development budget.

(2) Figures in parentheses indicate percentages to the respective total.

(3) $X2 = 53.13$; $df = 4$; $p = 0.000 < 0.01$, HS

Table – 1. 7 Degree of corporate commitment and training evaluation practices



TESTING OF HYPOTHESES

Inter-correlations

Table 1.8, presents the zero-order inter-correlations among the organisational characteristics including the degree of corporate commitment to T&D and the training evaluation practices of the respondent industrial units in Karnataka. It is worth noting that the inter-correlations among the organisational characteristics and training evaluation practices tended to be 'moderately high' and significant except the 'age of the unit'. Furthermore, the degree of corporate commitment exhibited significant positive correlations with 'only training evaluation practice' ($r=0.68$, $p< 0.05$), 'both training needs analysis and training evaluation practice' ($r=0.69$, $p< 0.01$), and the practice of 'not conducting any evaluation' of T & D programmes ($r=0.74$, $p< 0.01$). Finally, the 'rigorousness/robustness' of training evaluation practice (level, timing, and design of evaluation) positively and significantly correlated with the ownership pattern ($r = .39$, $p < 0.05$), nature of main business ($r = .44$, $p < 0.05$), ISO accreditation status ($r = .57$, $p < 0.05$), stage of the organisational life cycle ($r = .43$, $p < 0.01$), degree of corporate commitment to T&D ($r = .76$, $p < 0.01$), the practice of conducting only training evaluation ($r = .23$, $p < 0.05$), and the practice of conducting both training needs analysis and evaluation ($r = .34$, $p < 0.01$).

Based on these observations, the research hypothesis **(H1): "There exists a positive and significant correlation between the level of corporate commitment to training and development, and 'robustness' of training evaluation practices"** has been confirmed. Hence, the degree of corporate commitment to T&D initiatives plays a significant role in influencing the training evaluation practice.

Table – 1.8 Zero-order inter-correlations among the organisational characteristics including the degree of corporate commitment to training & development and training evaluation practices

Sl. No	Measures	1	2	3	4	5	6	7	8	9	10	11
1	Ownership pattern	-										
2	Nature of main business	.21	-									
3	ISO accreditation status	.32*	.19*	-								
4	Workforce size	.18	.13	.12	-							
5	Age of the unit	.16	.11	.18	.19	-						
6	Stage of the OLC	.14	.17	.14	.21	.24	-					
7	Degree of corporate commitment to T & D	.42*	.39**	.49**	.42*	.37	.51*	-				
8	Only training evaluation	.39*	.41*	.51*	.38	.41	.48*	.68*	-			
9	Both TNA & training evaluation	.47**	.52*	.66**	.41*	.45	.54*	.69**	.36	-		
10	No evaluation	.36*	.38*	.46*	.36	.38	.41*	.74**	.27	.18	-	-
11	Rigorousness of evaluation	.39*	.44*	.57*	.21	.19	.43**	.76**	.23*	.34**	.11	-

Note: * $p<0.05$; ** $p<0.01$; N=267

Multiple Regression Analysis

In order to test the impact of organisational characteristics, the degree of corporate commitment to T&D, training evaluation practice (independent variables) on the 'rigorousness' of training evaluation (dependent variable), multiple regression analysis was used. As shown in Table 1.9, the eight independent variables in respect of the respondent units including their commitment to T&D and training evaluation practice accounted for around 71 per cent of variance on the overall rigorousness of conducting training evaluation, which was statistically significant at $p<0.001$, as depicted by the coefficient of multiple determination (R2). It is worth noting that out of the eight independent variables, three were not statistically significant ($p>0.05$): nature of main business, workforce size and age of the unit. The remaining five independent variables were statistically significant: ownership pattern ($p<0.05$), ISO accreditation status ($p<0.01$), stage of organisational life cycle ($p<0.001$), the degree of corporate commitment to T&D initiatives ($p<0.001$), and training evaluation practice ($p < 0.01$).

Hence, the research hypothesis **(H2): "Organisational characteristics tend to influence the training evaluation practices"** has been partially confirmed based on above analysis of data from 237 industrial units in this study.

Table – 1.9 Multiple regression analysis for measuring the impact of organisational characteristics and corporate commitment to T&D on the 'rigorousness' of training evaluation practices

Independent variables	b	SEb	B	t	R^2	AR	F(p)
1. Ownership pattern	0.092	0.026	0.124	3.32*	0.714	0.712	169.65***
2. Nature of main business	0.085	0.032	0.108	2.40 ns			
3. ISO accreditation status	0.071	0.029	0.090	2.30**			
4. Workforce size	0.064	0.026	0.124	3.62 ns			
5. Age of the unit	0.058	0.030	0.068	1.95 ns			
6. Stage of the OLC	0.114	0.029	0.144	3.98***			
7. Degree of corporate commitment to T & D	0.267	0.031	0.368	8.98***			
8. Training evaluation practice	0.272	0.038	0.392	8.91**			

Note:

(1) Dependent variable = the rigorousness of training evaluation practice.

(2) * P<0.05; ** p<0.01; *** p<0.001; ns = not significant.

(3) b = unstandardised coefficients; SEb = standard error of b, β = standardised coefficients

(4) R2 = R square, R = adjusted R square, F (p) = F-value

Physical, Social and Psychological Conditions in the Workplace and Transfer of Learning

From the current study, it was found that the respondents perceived and reported several factors which either facilitated or inhibited the transfer of learning from the place of training to the workplace. Perception of resource adequacy, supervisory support, support for creativity, support for freedom, coworker support, and a conducive and congenial transfer climate in the workplace enabled meaningful and effective transfer of learning.

On the contrary, the perception of heavy workload, lack of performance feedback, lack of freedom to introduce changes in the workplace, lack of encouragement for innovation, rigid rules and conservativeness of the organisation, absence of needed facilities and resources acted as the major inhibitors of transfer of learning. This clearly indicates that the physical, social and psychological conditions available in the workplace might either serve as stimulants or obstacles for the transfer of learning. Similar findings were also reported by previous research studies in this field. For instance, Awoniyi, et. al., (2002) identified facilitators of transfer of learning as supervisory encouragement (assessing managers who give support to subordinates, communicating effectively, and setting clear expectations and goals), sufficient resources (access to appropriate facilities, equipment, funds, and information), freedom to decide

how to accomplish tasks and a sense of control over work and ideas, and an overall assessment of support for creativity. The prominent inhibitor of transfer of learning highlighted by their study was 'workload pressure' (unrealistic expectations, insufficient time, and distractions). Past studies have found evidence that supervisory support relates to transfer of training (Brinkerhoff & Montesino, 1995; Gregoire, Propp and Poertner 1998; Tennenbaum & Yukl, 1992). These studies found that support from supervision could take the form of information sharing, direct feedback regarding performance, or the provision of resources or incentives.

Similarly, findings from this study have highlighted several job and work environment factors that appear to impede the transfer of learning to use on the job. Most of these inhibitors of transfer of learning correspond to the findings obtained from the limited studies so far undertaken within the United States (Seaburg, 1982; Rooney, 1985; Vinokur–Kaplan, 1986). Chiefly these were identified as: (1) heavy workloads; (2) time pressures; (3) lack of reinforcement of training; (4) an absence of feedback on performance; and (5) the perception of in-service training. In the light of these results and discussions, the research hypothesis **(H3): "Physical, social, and psychological conditions prevalent in the workplace have got significant impact on the nature and extent of transfer of learning from the place of training to the workplace"** has been confirmed.

CONCLUSIONS

This study examined and reported that the key determinants of 'the rigorousness' with which evaluation of T&D programmes was carried out by the respondent industrial organisations in Karnataka. Ownership pattern, ISO accreditation status, stage of organisational life cycle, degree of corporate commitment to T&D, and the pattern of training evaluation practice exerted significant influence on the overall rigorousness of training evaluation. Physical, social, and psychological conditions available in the workplace such as sufficient resources, supervisory support, support for creativity and freedom, coworker attitude, and favourable transfer climate facilitated the transfer of learning. However, 'heavy workload' was often perceived as a major inhibitor of transferring and applying new learning in the workplace, which has to be suitably addressed jointly by management – employee partnerships.

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