

Training Effectiveness-Study Of Key Factors

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ABSTRACT

This research paper examines the role of seven key factors- management seriousness, need analysis, programmedesign, resource person, trainee motivation, methodology and environment-that make training programmeseffective. The study analyses the feedback of 300 employees from six organizations, in both public sector and private sector, who participated in "leadership training" in instructor-led classroom training programmes in India. The respondents gave their feedback on a designed questionnaire on their expectation from the factors in making a training programme effective and rated the seven factors in order of their preferences. As per their opinion, the top two factors that make training programmes effective, in order of preference, are the resource person, and trainee motivation. In addition to researchers, this study will have implications for HR professionals and resource persons who are instrumental in conceptualizing, scheming and distributing training computer operator to the benefits of employee learning and their use in organisations.

Keywords

training, key factors, effectiveness, learning, trainees

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Introduction

Training is described as the 'system for enhancing efficiency and making tangible improvements to employees' awareness, abilities, attitudes (KSA) including social actions' (Dhup B.K., 2009). One investigator explained training by discovering that "all \$expended on training produces \$30 in efficiency gains over 3 years" (Davis and Yi, 2004). American Society for Training and Development (ASTD), while making a study on fortune 500 companies reached a conclusion that "Companies investing in training and growth had 86% more investors value than medium- and 46% greater than the overall sector." (Bassi L., Lydwig J., Murrer M., Van B.M., 2000). But though huge Sum of money including times on educational activities was expended "not everyone achieves the expected outcomes" (Pfau and Kay, 2002). Reasons for such failure are attributed to be –"training is no exiting, not easy to apply, level is not up-to mark, not pragmatic, participants don't engage in learning process and so on" (Schultz & Doerr, 2011). Still some researchers have concluded that "Shift to the workplaces of education from school is not much more than 20 %" (Bassi, L. and) Such findings induced the researchers to find out factors that make training programmes effective.

1.1 measuring training effectiveness

"Training outcomes can be broadly measured at two stages - Learning generation and Post-training Job Performance" Donald Kolb training plan remains the major method to describe assessment criteria through training along with its clear and realistic methodology (Leach and Liu, 2003). While a variety of methods were able to determine efficacy throughout training, training result recognition and categorization system established also through training

criteria are far more common. (Leach and Liu, 2003). (Kirkpatrick, D. 1996):

- i) Reactions – Trainees' immediate reaction on likes and dislikes
- ii) Learning – Absorbing of knowledge, skills, attitudes by the trainees
- iii) Behavior – Behavioral changes on the job, having positive impact
- iv) Results – Business result achieved by trainees
- v) This evaluated the training at reaction level only. The researchers selected reaction stage because of the following reasons:

i) Various researchers found that Participants also wish to know more about a training curriculum which may develop their results more often. Latest studies indicate that responses respond more to changes in the effects of reading instruction (Sitzmann, Gray, Casper), 2008).

ii) In one of the ASTD studies, approximately 60% of the organizations analyzed were used to test the Kirkpatrick template. Around 77% of such organizations analyzed the response of respondents, 38% analyzed thinking, 14% analyzed the activities of their work, and just 7% offered final results (Bassi, Ludwig, Mc Murrer as well as Van Buren, 2001);

This study incorporates reaction of the trainees on conduct of the training programme i.e. what they expect from the factors that influence training effectiveness and their rating of factors in order of merit. As the learners are the beneficiaries of the training programmes, their opinion is valued for the evaluation in this research.

1.2 Objective of the study

This research is aim to investigate the influence of seven main management practices seriousness, need analysis, programme design, resource person, trainee motivation, methodology and environment-in making training programmes effective. Through both primary data (opinion

of trainee) and the secondary data(literature review) the following points to be examined:

- i) To examine the role of every factor in making a exercise programmer effective – generating learning and its use at the organization.
- ii) To make a comparative analysis of the key factors among the community sector besides reserved sector staffs
- iii) To evaluate employee feedback at the reaction level, on training effectiveness

Factors Influencing Training Effectiveness – Literature Review

Researchers have given importance to various factors that have impact on training effectiveness. While most of them have in specific, the emphasis has been on the attitudes, thinking and behavioral improvements of apprentices (Tannenbaum & Yukl, 1992), some centered on the qualities of the apprentices, such as their intellect and eagerness to learn (Noe, R.A. 1986). A few were found to be able to affect education efficacy before, throughout and after preparation in a large range of organizational and human configurations (Salas & Cannon Bowers, 2001). This report analyses the all the above areas on the basis of seven relevant factors as narrated below:

i) Management Seriousness

It is about the perception of top management on the benefit of training that commensurate the money spent and time consumed in employee learning. The organizations where the CEO or the Board of Directors are convinced that training generates learning and things learned are carried to the place of use, they allocate sufficient budget and instruct their training managers to conduct requisite number of training programmes. But there are organizations where the management feels otherwise. That, training is waste both in the term of money and time. So, they are not serious about employee training. In some organizations, it is seen that top officials inaugurate a training programme, motivate employees to take training seriously, and attend the closing session to interact and discuss what trainees have learnt. In such organizations, it is found that trainees become serious about training. Where top management feels negatively about training benefits, they just take training as a routine affair, do not turn up to training programmes, the trainees feel demotivated and do not take training seriously.

“The positive learning environment should provide ample tools, knowledge to enable trainees to remember how much they have mastered, qualifications incentives, regular input and constructive implications for the use of training material” (Rouiller & Goldstein, 1993). This environment forecasts how highly qualified workers behave at their workplace. Likewise in 1993, “the favourable environment was related to the transition of training in a consumption area.” Rouiller and Goldstein noticed. “Management motivation and motivation for involvement in learning programmes are perceptibly investigated by several other researchers” (Birdi, Allan & Cooper, 1997).

ii) Training Analysis:

Training needs emerge where a difference in skills necessary for the position and the current skill level of workers is created. “It should become easier to plan effective training plans and implement training until we have established skill deficiencies within the organization. Education Need Interpretation provides a variety of critical things. Some of the following scenarios will happen when it is not properly performed:

- Training programmes may have the wrong content, objectives or methods
- Nominating employees who do not need such training
- Expected learning may not be generated
- Training Programmes conducted are unnecessary, leading to waste of money and time” (Gautam V. and Gautam S., 2008).

iii) Training Design

“The need of a training design is felt because training should be structured, focused and need based. It needs to be designed and conducted in a given manner” (Curtain, E.A. Saari: Saari, L.M. Shaw K.N. and Latham, G.P. 1981) “Therefore, a concept manual will be utilized to help administrators, consultants on subject material, testers as well as other teachers improve their curriculum and describe it to them” (George M. P. 2006). “It is like an artist who creates this cycle alternative initial drawing and possible positioning of a proposed building on a given site” (Lynton P.R. and Pareek U., 2011). The design encompasses, the duration, content to fill the gap in trainee KSA., materials to be given, resource person to be deployed and all that. Training design should be in such a way that the objective for which a training programme is organised, can be achieved.

iv) Resource Person:

“The care of the project coordinator or even the teaching staff is not replaced. If the mediator, who directs the exercises, is not seen by the client as a genuine individual who exudes confidence in carrying out the training requirements, the most successful concept could lead towards incomplete outcomes” (Gautam V, & Gautam, S. 2008). “It is the instructor who is able to erase the emotional bloc among the trainees, whom can inspire them to understand, who cancel the trainees' biased view of teaching” (Towler A, Dipboye, R. 2001). “The nature, quality, and effectiveness of the interaction we call “training” depends heavily on the feelings trainers communicate to participants through their own behaviour” (Lynton R.P. and Pareeh U., 2011) “The indifferent professor says so. The strong teacher explains, showing the high-level instructor that the perfect instructor inspires.

v) Trainee Motivation:

There is a saying – “You can take the horse to the pond; but cannot make it drink”. A trainee needs to have some amount of motivation to learn in a training programme. “Training

current literature accepts that perhaps the engagement of trainees may be affected by personal and organizational features" (Alliger, Tannenbaum, Bennett, Traver&Shotland A., 1997).

- **Individual Characteristics:** "Achievement motivation is a dominant factor that motivate trainees to learn" (Mathieu , Martineau, and Tannenbaum ,(1993). Webster and Martocchio ,(1993) have identified that "anxiety reduces motivation to learn in training". Noe, R.A., (1986) indicated that "internally guided trainees believe that teaching is measurable, and are encouraged to learn." Are in need of supremacy and competition (Kabanoff&Bottger, 1991). Are found to be factors that motivate trainees to learn. "Conscientious trainees, having More trust in their abilities to learn is compared more inspired for learning, "Martocchio as well as Judge said,(1997. Simmering as well as Colquitt,(1998) have shown a greater motivation to improve the material of their training" to improve with high self-efficiency. Martocchio and Judge, (1997) said, "Those who work extensively are more inclined to be inspired, as they feel that that improved skill level , improves job performance ".

- **Situational Characteristics:** This relates to the understanding of apprentices of the relating to the work atmosphere that hinder the use of the workplace material. "Adequate tools, information to inform students of what they've been achieved, incentives to make use of knowledge, sometimes input and useful results the usage of educational material may be a core aspect of the successful environment." (Goldstein & Rouiller,1993). The magnitude of qualified workers at work was forecasted by such an environment. Likewise, Rouiller as well as Goldstein (1993), "with both the shifting of training at the position of using it, was indeed a productive environment." "For many other authors, encouragement from supervisors and colleagues to engage in learning programmes have been investigated" (Birdi, Allan & Warr,1997).

vi) Methodology:

Since preparation relies on correct information and practical abilities, it is important to select a technique that can motivate individuals and affect their actions. It deals with the correct use, through the teaching facilitator, of interactive platforms to execute a training course – from any time lecture process to role playing, in-basket drills, fish tank, labyrinth of acts, planning sessions, coming up with ideas, cooperative learning, organizational games, etc." (Gautam, V. and S. Gautam, S.2008). Today a number of training methods are used to facilitate learning in training sessions.

vii) Environment:

This encompasses the layout of the classrooms, including seating configuration, light configurations, air conditioning / ventilated location, audio systems, supplied supplies, milk, tea, treats etc. and their delivery time are all essential and carefully taken into account (Gagne R.M. and Medsker, K.L., 1996). Lynton R. and Prareekh U., (2011) have made detailed observation on seating arrangements, where they suggested " Fan type" , "Conference type" , "Horse shoe type" and a general "classroom" arrangement. College type

class room seating is not suggested as it makes trainees feel discouraged and they have appreciated the other three types of seating as there the trainees feel elevated and are in a position to interact with each other comfortably.

Arrangement of adequate brightness, fixing of switches to make off and on while making power point presentation or showing videos, movies etc. are given due importance. The sound system, which is given maximum importance by all researchers, is discussed in detail for the benefit of the classroom training. Though it sounds minute details, it is seen that such small things like "O-rings", if neglected can affect a training programme negatively.

Research Methodology And Collection Of Data

Opinion of 300 managerial and supervisory level trainees, of six organizations, in both public and private sectors were obtained as data, on a "stratified random sampling" method, through a reaction level feedback. The respondents, who participated in Leadership programmes , were explained the purpose of the exercise and all their doubts were cleared regarding the questionnaire before obtaining feedbacks. Researchers also clarified trainee point of view through interviewing the trainees. Respondents not only ranked the seven factors- management seriousness, need analysis, training design, resource person, trainee motivation, methodology and environment- but also linked their expectations from the factors on training effectiveness, as they were asked to do so. Secondary data was collected by scanning various research articles and books of prominent authors on training and development. Trainees' opinion was obtained because they are the beneficiaries to training outcomes and are best placed to evaluate training. The opinion of managerial and supervisory level staff was considered as they are competent to analyse and give logical opinion.

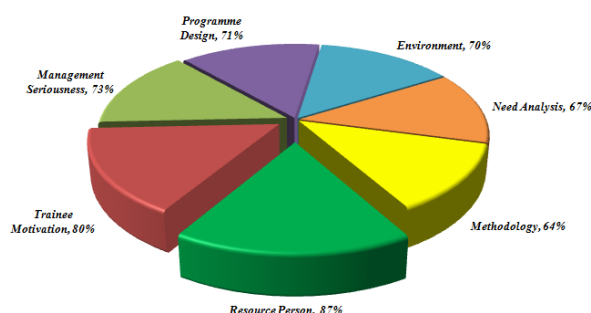
i) Comparative ranking of factors that influence training Effectiveness

FACTOR	PUBLIC SECTOR RANKING	PRIVATE SECTOR RANKING
Management Seriousness	3	4
Need Analysis	6	5
Programme Design	4	3
Resource Person	1	1
Trainee Motivation	2	2
Methodology	7	6
Environment	5	7

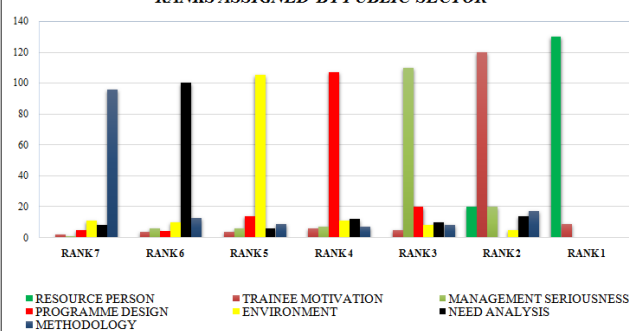
ii) PUBLIC SECTOR:

FACTOR	RANK	No. of Participants responsible for assigning Rank (Out of 150)	"Importance" in terms of Rank
Resource Person	1	130	87%
Trainee Motivation	2	120	80%
Management Seriousness	3	110	73%
Programme Design	4	107	71%
Environment	5	105	70%
Need Analysis	6	100	67%
Methodology	7	96	64%

%AGE OF IMPORTANCE BY PUBLIC SECTOR



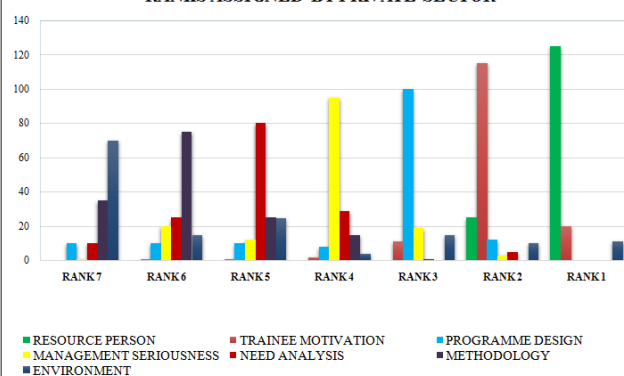
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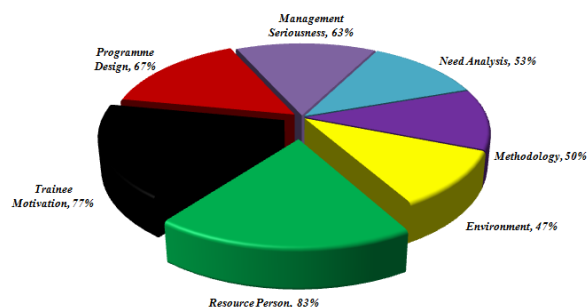
iii) PRIVATE SECTOR

FACTOR	RANK	No. of Participants responsible for assigning Rank (Out of 150)	"Importance" in terms of Rank
Resource Person	1	125	83%
Trainee Motivation	2	115	77%
Programme Design	3	100	67%
Management Seriousness	4	95	63%
Need Analysis	5	80	53%
Methodology	6	75	50%
Environment	7	70	47%

RANKS ASSIGNED BY PRIVATE SECTOR



%AGE OF IMPORTANCE BY PRIVATE SECTOR



Findings

The private as well as public sectors alike respondents ranked the resource person number one factor contributing to training effectiveness. 87% of the participants in public sector and 83 % in private sector gave number one ranking to the resource person in making a training programme effective. They also agreed that the trainee motivation is the second greatest significant factor that contributes to the effectiveness of a training programme. In public sector 80 % of the trainees ranked trainee motivation the second most important factor, and 77 % private sector employees agreed to the ranking. Excluding these 2 factors the reserved and community sector trainees could not agree on other five factors. Management seriousness was ranked 3rd. by the public sector respondents, where 73 % of the trainees confirmed, but placed 4th. by the private sector employees, where 63 % of the respondents agreed to the rank. This ranking is a bit closer, though not equal. Training need analysis was ranked 6th. by public sector trainees with 67 % respondents agreeing, but 5th. by the private sector employees, with 53 % agreeing to it. Same closeness is visible here also. Programme design is given 4th. rank by the public sector trainees, to which 71% respondents agreeing, but 67 % of the private sector trainees giving it rank 3, which still conforms a closeness. Training methodology is given the 7th. rank by 64 % of the public sector employees, but 6th rank by the private sector trainees, by the opinion of 50 % , which can be taken as closer evaluations. But in Environment the gap is high i.e. it is given 5th. rank by 70 % the private sector respondents but 7th rank by private sector employees, with the opinion of 47% of their respondents.

What they expect from a resource person :The importance of a resource person in making a training programme effective is accepted by Gautam V. and Gautam S., (2008); Towler A. and Dipboye, R., 2001 and Lynton R.P. and Pareeh U., 2011. The competency and involvement of this factor is of paramount importance in generating learning for the trainees, as per the researchers. The respondents who participated in the leadership training programme have agreed to the researchers 'view points by ranking it as number one factor in training effectiveness. They also expressed the following expectations from the resource person.

- Command on topic, clear on concepts and explains nicely
- Motivates to learn, generates learning appetite
- Teaches through fun, very entertaining
- Gives solutions to our problems
- Seems to be genuinely interested in us

Why trainee motivation is important: Trainee motivation is very much required to generate learning in a training programme. Many researchers like Alliger, Tannenbaum, Bennett, Traver & Shotland A., (1997) have studied individual and situational characteristics while examining motivational factors. Expressing their view points, the respondents from both public and private sectors have accepted importance of trainee motivation in training effectiveness. What they expect are:

- Managerial support is needed to give the correct candidate to the correct coaching
- Resource persons should be competent
- All necessary arrangements should be made in training arena to facilitate smooth learning
- Trainees should be given ample opportunity to implement their learning at the place of use.

What they expect from the Management: Management decision is the first step to conduct a training (Rouiller & Goldstein, 1993; Birdi, Allan & Warr, 1997). Both in allocating budget and instructing HR department to arrange training, management seriousness is required. Without management decision, no training is possible. But, public sector employees and private sector employees have ranked it third and fourth respectively. Their expectation from management are :

- Should allocate sufficient budget for training and development programmes
- Hire top quality resource persons for training
- Training environment should have all facilities to conduct a training programme

Training need analysis: Gautam V. and Gautam S., (2008) have given maximum importance to training need analysis. If right gap is not determined, right training solution is not possible. But the private sector employees have given fifth rank to this factor and sixth rank is allocated by public sector employees. In this sector their expectation is :

- HR managers should make exercises to identify gaps in employees
- The gaps can be Knowledge related, Skill related or Attitude related
- Employee evaluation should be 360 degree, so that actual gap can be identified

Programme Design : This segment is so important that in many countries there are courses on training design, called "Instructional design". Rouiller & Goldstein, (1993) have suggested careful sketch of training designs to get better result. However, public sector respondents have ranked it fourth, and private sector employees, third. They suggest:

- Training design should be done by the HR manager in consultation with the Instructional designer and programme co-coordinator
- Sufficient time should be allocated for a training programme in the design
- The programme designed should spell the training objectives

Methodology: Gautam, V. and S. Gautam, S. (2008) explain methodology as a choice of strategy by the resource person. Without appropriate method no resource person can generate enthusiasm and learning in a training session. However, our respondents have given very low rank to it i.e. sixth rank Workers of the individuals and the government seventh employees. What they want is :

- The resource person should use appropriate training methods
- Training methods should be used looking at the maturity level of the trainees
- More practical and experiential methods should be used, where trainee involvement is maximum rather than lecture of the resource person

Environment: Training environment is of utmost important in conducting a training programme, as found by Gagne R.M. and Medsker, K.L., (1996) and Lynton R. and Prareekh U. (2011). If not taken care of both the resource person and trainees may face problem. This factor has not received much recognition by the respondents. The public sector employees have ranked it fifth and the seventh rank is allocated by the private sector employees. What they expect is:

- The classroom should be spacious, well lighted, having controlled temperature
- The LCD projector should be set at the appropriate place, having space to use a board or chart, and having good sound system
- Seating arrangement should be conference type, where each participant can see the other conveniently.

Limitations

This research paper is restricted to reaction level evaluation of training, leaving learning, behaviour and result of the Kirkpatrick model. There is a plan to examine trainee behaviour and result in next Six months. Looking at the vastness of training population, the sample size is only 300 and employees are in one segment i.e., managerial and supervisory level staff. Additionally, the training was limited to a behavioral topic- Leadership training.

Conclusion

This research paper has presented the opinion of 300 trainees of the managerial and supervisory cadre in six organizations in both public and private sector, to measure the role seven factors -management seriousness, need analysis, training design, resource person, trainee motivation, methodology and environment, in making a training programme effective. Their opinion was collected through a designed questionnaire, where they were asked to rate each factor in the order of merit and also, explain what they expect from the seven factors in making a training programme effective. Majority opinion was in favor of the resource person being the number one factor who makes a training programme effective and the second most importance factor was allotted to trainee motivation. Out of 150 respondents in public sector 130 (87%) and in private sector 125 (83%) respondents agreed to rank the resource person number one factor in making a training programme effective. The next important factor adjudged was trainee motivation to which in public sector 120 (80%) respondents agreed and in private sector 115 (77%) recognised it. While rating other five factors there is no consensus on their ratings but, there is not wide gap in their opinions. They have also suggested on each factor that will help the HR managers, trainers, trainees and ultimately Training courses allow companies to harvest. This analysis can be pursued by investigators themselves, for the benefit of training and development.

References

- [1] Alliger G.M., Tannenbaum S.I., Bennett W Jr., TraverH.andShortland A. (1997) A meta-analysis of the relations among training criteria, Personnel Psychology, 50, 341-358.
- [2] Arthur, W. Jr., Bennett, W. Jr., Edens, P.S. and Bell, S.T. (2003) Effectiveness of Training in Organizations: A meta-analysis of design and evaluation features. Journal of Applied Psychology, 88, 234–255.
- [3] Bassi, L.J., Ludwig, J., McMurrer, D.P. and Van Buren, M. (2002) Profiting from Learning: Firm-Level Effects of Training Investments and Market Implications. Singapore Management Review, Volume 24, No.3.
- [4] Birdi K. , Allan C. &Warr P. (1997) , Correlation of perceived outcomes of four types of employee development activity , Journal of Applied Psychology ,82 , 845-857
- [5] Colquitt and Simmering (1998), “Conscientiousness , goal orientation , and motivation to learn during the learning process : A longitudinal study “, Journal of Applied Psychology ,83 , 654-665
- [6] Davis, F.D. and Yi, M.Y. (2004) Improving computer skill training: Behavior Modelling, Symbolic Mental Rehearsal and the Role of Knowledge Structures.
- [7] DhupB.K.(2009) ,Training Methodo
- [8] Gagne, R.M. and Medsker, K.L. (1996) The Conditions of Learning: Training Applications.
- [9] Gautam, V. and Gautam, S. (2008) Training and Development - Towards an Integrated Approach. Indian Society For Training and Development. 6th Edition.
- [10] George M. Piskurich, 2006), „A qualitative analysis and comparison of the two contemporary models of instructional design., on-line publication, 5(1):18 - 24
- [11] H. Dolezalek, (2004) Industry Training Report, 33-34
- [12] Kirkpatrick, D. (1996) Evaluation” in the ASTD Training and Development Handbook, 2nd.ed. R.L. Craig (New York: McGraw –Hill, 1996), 294-312.
- [13] L. Bassi, J. Ludwig, D. McMurrer, and M. Van Buren, Profiting from learning: Do Firms’ Investment in education and training pay off? (Alexandria VA: American Society for Training and Development, September 2000)
- [14] Kabanoff B. & Bottger P. (1991) , Effectiveness of creativity Training and its relation to selected personality factors , Journal of Organisational Behaviour ,12 pp. 235-248
- [15] Leach, M. and Liu, A. (2003). Investigating Interrelationships among Sales Training Evaluation Methods. Journal of Personal Selling & Sales Management, Vol. 23 No. 4, pp. 327-339.
- [16] Locke, E.A. Saari, L.M. Shaw K.N. and Latham, G.P. (1981). Goal setting and task performance, Psychological Bulletin, 90, 125–152.
- [17] Lynton R. and Prareekh U (2011), Training for Development, Sage Publication pp.
- [18] Martocchio J.J. and Judge T.A., (1997) , Relationship between Conscientin employee training: Mediating influence of self-deception and self-efficacy , Journal of Applied Psychology ,82, pp. 764-773
- [19] Mathieu J.E., Martineau J.W., and Tannenbaum S.I (1993) , Individual and situational influences on the development of self-efficacy: Implications for training effectiveness, Personal Psychology, 46, 125-147
- [20] Mumford M.D., Baughman W.A. et.al (1993) Personality Variables and skill acquisition performance while practicing complex task , Human Performance , 6, pp. 345-381
- [21] Noe, R.A. (1986) Trainees' Attributes and Attitudes: Neglected Influences on

- Training Effectiveness. Academy of management Review, 11, 736-749.
- [22] Pfau, B. and Kay, I. (2002) HR Playing the Training Game and Losing. HR Magazine, 49-54.
- [23] Rouiller J.Z. & Goldstein I.L. (1993) The Relationship between Organizational Transfer Climate and Positive Transfer of Training, Human Resource Development Quarterly, 4, 377-390.
<http://dx.doi.org/10.1002/hrdq.3920040408>
 Sarabdeen J. 2008 75.
- [24] Salas, E. and Cannon-Bowers, J.A. (2001), The Science of Training: A Decade of Progress, Annual Review of Psychology, 52, pp. 471-499.
- [25] Sessa, V. and London, M. (2006) Continuous Learning in Organizations: a living systems analysis of individual, group, and organization learning. Emerald Group Publishing Limited, 123-172.
- [26] Schultz, M. & Doerr, J.E. (2011). Persuade, and Sell in Any Situation, ..Har/Psc edition); Language: English; ISBN-10: 0470922230 ...
- [27] Sitzmann, T., Brown, K., Casper, W. and Zimmerman, R. (2008) A review and Meta-Analysis of the Nomological Network of Trainee reactions. Journal of Applied Psychology 93 (2), 280-295.
- [28] Tannenbaum, S.I. and Yukl, G. (1992) Training and Development in Work Organizations. Annual Review of Psychology, 43, 399-441.
- [29] Towler, A. and Dipboye, R. (2001) Effects on Expressiveness, Organizations, and Trainee goal orientations on training outcomes. Journal of Applied Psychology, 86, 664-673.
- [30] Webster J. and Martocchio J.J. (1993). ,Turning Work into Play : Implications for Microcomputer software training , Journal of management , 21, 757- 787