

A STUDY ON RETENTION OF JOB SKILLS AND RULES BY THE FRONTLINE EMPLOYEES SOUTHERN RAILWAY

R. VICTOR LAZARUS

Assistant Professor, Department of Management Studies, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India

ABSTRACT

Job skills of the trainees are tested on three occasions namely, Pre-training period, Post-training period and in the field. The population of the study has been the total number of employees being trained in the Zonal Railway Training Institute of Southern Railways at Tiruchirappalli over two years. About 1500 probationers were trained during the study period of which 236 trainee employees were interviewed at three stages like pre-training period, post-training period and in the field. The field results have been obtained approximately six months after the training. The new methods adopted in training for the front line staff of Indian railways have made the staff to learn and suit themselves to the latest technological advancements. The analysis indicates an impact of training. The findings also indicate long term impact on employees in remembering the skills learnt and the tendency to apply such skills when demanded. In the present context, the training is given to employees across the cadre. When they assemble together in the training centre, there is a feeling among higher cadres that they are not supposed to be treated on par with other lower cadres. This feeling hinders the training process.

KEYWORDS: Retention, Job Skill, Frontline Employees

INTRODUCTION

India is the second largest country in terms of human resource endowments. Indian Railways is the largest transportation network operational under a single management that has a work force of nearly 1.4 million employees. Nearly 20 million people or roughly 2 percent of the Indian population travels on Indian railways every day. It is difficult to visualise conglomeration of nearly 650 crore passengers per year attached, dependent and patronised by a single system of transportation. Indian railways also transports more than one third of India's total freight traffic. Thus the role played by the employees of Indian railways in the economic development of the country is very vital. Therefore the main concern should be to harness and exploit the mental and physical capacity of the employees and put it in right direction for achieving organisational objectives.

TRAINING

A systematic training will help the employees acquire knowledge, skills and attitudes, which are essential to do their jobs. The training programs are conducted to enhance and increase the programme level of the employee, to develop human resources to meet the current as well as future needs of the organisation, To ensure effective utilisation of human resources and to integrate individual goals with the organisational goals, which results in productivity improvement, greater workforce flexibility, savings on materials and capital costs, more motivated workforce and improved quality of the final product or service.

REVIEW OF LITERATURE

The training programs are in regular agenda in the Zonal Training school of Southern Railways of India. The training program has undergone many changes over years. The problems in training the employees of a particular context always prevail. Therefore, the aim of this study is to resolve the present day problems, which have been observed by the researcher. Therefore, it is a descriptive study based on the quantitative information collected over the period of study. Several studies have been made in this area erstwhile in the world. Similar studies in Indian context are not much to be reviewed or cited. Therefore, studies in the global context have been cited.

TRAINING EFFECTIVENESS

Huczynski and Lewis (1980) initiated a study on 48 electronic managers after having three-day network analysis training program. The variables tested were motivation related like attend on own, value of training, prior course discussion. The study was initiated after four months. The results were that about 35% of respondents made some attempt to transfer. Komacki, Henzemann, and Lawson (1980) dealt with 55 vehicle maintenance personnel. The training period was about one-hour on safety. The variables tested were motivation related ones. The observation took place after 40 weeks. The safety behaviour was exhibited. McGehee (1948) tested on 21 rug-mill trainees. The training was about preparation of rug-spools. The tested variables were initial effectiveness in training but it was done immediately after training. The time required to attain acceptable average production was tested. It was significantly related to time required to complete early training periods. Miles (1965) selected 34 elementary school participants. Training was given on human relations for two weeks. Demographic characters and motivational factors were variables. It was an instant testing. There was significant change in their personality and motivation variables through an instant feedback.

IMPACT OF TRAINING ON PERSONALITY AND BEHAVIOUR

Neel and Dunn (1960)¹ initiated a study on 32 supervisory trainees. The period of the training was 10 weeks on supervisory skills. The variables were related to ability like personality factors. It was an immediate feedback. Training had an impact on the trainees significantly. Noe and Schmit (1986)² ventured a study on the impact of training on 60 school educators. The training inputs were related to managerial skills. The variables were expectancies, motive to learn, exploratory behaviour, job involvement and so on. It was an immediate feedback. The results were that the learning was related with all training characteristics. Reber and Wallin (1984)³ selected 105 Farm machinery underwent training on safety procedures. The motivational variables were tested. The safety behaviours were exhibited after 40 weeks period. Ryman and Biersner (1975)⁴ found that successful graduation had a significant positive relationship with training motivation, leadership, and conformity and was negatively related to training concerns across 3 training programs. This was done with 584 military personnel after having technical training on diving and underwater skills. This was done immediately after training.

TRAINING ON PROFESSIONAL ORIENTED SKILL

Smith and Downs (1975)⁵ took up 236 ship building apprentices, who underwent a training program on variety of ship building skills. The variables tested were related to ability in ship building skills. Trainability assessments were successful in predicting performance after three months period in the skill for which they were designed. They were less successful after a 12 month period and no single assessment predicted performance for all skills. Taylor (1952)⁶ selected 120 auto-motive mechanic trainees, who underwent training on mechanic skills. The variables related to ability were tested

with aptitude tests. Aptitude test battery was effective identifying trainees who had the necessary knowledge and skills to skip the first four weeks of training and still do approximately as well as those who took the whole course. Taylor and Tajen (1948)⁷ selected a sample of 313 clerical trainees who were trained on clerical, record-keeping skills. The tested variables were ability related. It was done instantaneously soon after training. About 70% of the selected trainees did better than the average unselected trainees. Tubiana and Shakhar (1982)⁸ conducted a study on a sample of 459 Israeli military trainees. They were given training on basic military skills. The variables were related to demographic, ability, motivation and personality. Officer rating of potential had a significant positive relationship to education, language, intelligence and composite of personality. Wexley and Baldwin (1986)⁹ initiated study among 256 college students who underwent training time management. The variables were related to motivation like goal setting and relapse prevention. It was immediate feedback. The results were significant even after eight weeks' time.

The instructional elements of in-service training sessions that prepare teachers to implement innovations were investigated by Broyles, India and Murray Tillman (1985)¹⁰. Workshops conducted by trainers from exemplary programs sponsored by the National Diffusion Network were observed to describe the content and activities in terms of number of minutes and percentage of time. Changes in teachers' concerns were measured by the Stages of Concerns Questionnaire. The results indicated that content topics classified as introduction, skills, organization, and theory were related to changes in teachers' concerns following training.

Ian D. Simpsona , P. D. Tanwarb, Chittaranjan Andrdec, D. K. Kocharb and Robert L. Norris (2005) initiated a study on The Ebbinghaus retention curve. Passive Intermodulation test (PIM) has been recommended for field management of bites by some venomous snakes. A narrow range of pressures under the encompassing wrap is necessary for PIM to limit venom spread. This study sought to evaluate the effect of focused training on volunteers' ability to apply PIM and to retain such skill over time. Forty volunteers were randomly divided into two groups: Group 1 (N = 20; controls) received standard written instructions in PIM application; and Group 2 (N = 20) received focused instruction during a 4-h training session (including hands-on practice and real-time feedback regarding pressures achieved). After voicing confidence with the technique, volunteers were tested at 1 h, 1 day, 3 days and 3 months post training. One-hour post training, no volunteers in the control group were successful in applying PIM with the correct pressure. Twelve volunteers (60%) in Group 2 achieved target pressures 1 h after training. However, there was rapid loss of ability to apply PIM correctly by Group 2, falling to just 25% successes at 3 days, with little further deterioration at 3 months. Neither written instructions nor intense training with feedback adequately prepares individuals

The variables chosen for this study, therefore, are rules, (the transportation rules taught to the staff working in the ticket issuing counters, the Ticket checking staff engaged in collecting penalty from the irregular passengers and the Station Masters entrusted with the job of dealing with the movement of passenger and goods trains), Independent nature of handling work, handling complex issues, administrative assistance in applying skills, ability of the individual to correlate the learned rules practically in the field, satisfaction derived by the individual while handling complex issues, ability to retain rules in the memory, job rotation, compatibility of practical training, standard of rules taught as theory, ability to update skills learned.

OBJECTIVES

The objectives of the paper are

- To identify the short and long term memory retention of training skills of the respondents trained in the Zonal Railway Training Institute of Southern Railways, a public sector undertaking,
- To evaluate the learnt skill application; and
- To suggest, if possible, the ways to restructure the training program in future.

DESIGN OF THE STUDY

About 1500 personnel have been trained during the period between 2009 and 2010. The trainees were personnel from various levels across the organisational hierarchy of Southern Railways. Therefore, the type of the sampling technique used in the data collection was stratified random method. The respondents were mainly Station Masters, Booking Clerks (both current & advance booking) and Ticket Checking staff. These three groups were given training separately and the selection of samples also became easy. The Station Masters work round the clock in the railway station and perform the duty of receiving and sending trains. The trains need to be run with utmost safety as it involves human lives. The Booking Clerks both current and advanced booking are involved in printing and supply of the journey tickets across the counter to various types of passengers duly applying rules learnt during the training. On the other hand, the Ticket checking staff check and collect the tickets from the passengers both on the platform and on board in the running train. All the three groups mentioned above form the category of front line workforce of the Indian railways who should compulsorily learn, retain and update rules and regulations then and there. They were selected at random from each group in equal numbers. The groups have also further been divided on the basis of qualification the trainees, income level, gender and Marital Status. The sample size was determined as 236, which would constitute approximate 15 per cent of the total respondents under study. This has been justified in the context of time limitation of training period and the lapse of six months period soon after training.

Data Collection was done with structured questionnaire. These questionnaires were administered on three occasions. The respondents were tested before being inducted into the training program. They were again evaluated soon after the training was over. The third stage, an important one, was initiated in the field after six months from the date of training. Prior knowledge, knowledge acquired after training and the retention of the knowledge after a period were the focus areas of the research. This paper aims at understanding their retention power of training input after six months.

TOOLS FOR ANALYSIS

Demographic factors were analysed with simple comparison of data collected. However the training factors and its impact on the trainees were tested with non-parametric statistical tool like chi-square tests with accepted significance level and also were tested to know whether there existed internal inconsistency in stages.

LIMITATIONS OF THE STUDY

- The study concentrates on the retention skill of rules and regulations taught to the trainees who attend the initial training program only but does not address the trainees of promotional and refresher training program.
- Only four categories of employees namely the Current Ticket Booking Staff, Advance Ticket Reservation Staff, Ticket Checking Staff and Station Masters belonging to the traffic department are tested on their short and long term skill retention whereas others categories in the traffic department like Loco Pilots, Guards, Employees

belonging to departments like stores, mechanical, personnel and engineering are not explored.

- There are nine Zonal Railway Training Institutes in Indian Railways, out of which Southern Railway alone has been taken for the study to explore the impact of training skills imparted.

ANALYSIS AND INTERPRETATION

One of the basic tests is that, whether the training transfer enables employees to apply the skills learnt in training on the job or not. The training skill imparted during and after the training program helps the employees to effectively and quickly apply them in their day to day work. The thrust area of this study is to know whether the employees are able to retain training inputs and apply whenever the learned input required for practice. The transfer of training skills not only helps the self development of the employee but also in transfer of training to other employees as well. One side of the analysis is demographic character and another side in this analysis various variables applied even after six months from the date of training.

Table 1: Attitudinal Scale of Employees of Southern Railway after Training Programs

Variables	(1)	(2)	(3)	(4)	(5)	Total
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Rules	12 (8.89)	31 (22.96)	28 (20.74)	49 (36.30)	15 (11.11)	135 (100)
Assistance	10 (7.41)	56 (41.48)	24 (17.78)	37 (27.41)	8 (5.93)	135 (100)
Problems	12 (8.89)	82 (60.74)	32 (23.70)	6 (4.44)	3 (2.22)	135 (100)
Efforts	4 (2.96)	64 (47.41)	39 (28.89)	25 (18.52)	3 (2.22)	135 (100)
Work	11 (8.15)	82 (60.74)	27 (20.00)	13 (9.63)	2 (1.48)	135 (100)
Satisfaction	11 (8.15)	74 (54.81)	19 (14.07)	26 (19.26)	5 (3.70)	135 (100)
Retention	14 (10.37)	73 (54.07)	34 (25.19)	10 (7.41)	4 (2.96)	135 (100)
Rotation	8 (5.93)	79 (58.52)	23 (17.04)	17 (12.59)	8 (5.93)	135 (100)
Practice	14 (10.37)	75 (55.56)	28 (20.74)	11 (8.15)	7 (5.19)	135 (100)
Exposure	31 (22.96)	50 (37.04)	27 (20.00)	22 (16.30)	5 (3.70)	135 (100)
Update	26 (19.26)	70 (51.85)	24 (17.78)	14 (10.37)	1 (0.74)	135 (100)

Source: Primary Data

Note: Figures in parenthesis is in percentage

Table 2: Chi-Square Tests on Demographic Characteristics Against Rule, Assistance, Problem, Efforts, Work and Satisfaction

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Rules	Assistance	Problems	Efforts	Work	Satisfaction
Age	0.64 ¹	0.84	0.91	0.50	0.25	0.38
Gender	0.67	0.07	0.19	0.05	0.35	0.46
Marital	0.92	0.29	1.00	0.38	0.21	0.09
Qualification	0.13	0.16	0.72	0.57	0.02	0.03
Income	0.32	0.03	0.93	0.29	0.01	0.02
Category	0.28	0.00	0.00	0.01	0.01	0.00

Source: Primary data

Rules

Table 2 (column 1) consists of the results of chi-square test with 5% significance level. The comparative analysis

¹ Significance at 5% level i.e. if the value in the cells is less than 0.05, the true hypothesis is rejected and if it is higher than 0.05, the true hypothesis is accepted.

revealed that about 30% (Table 1; column 1 & 2) of respondents were able to recall the rules they learnt during the training season irrespective of their age, gender, marital status, qualification, income and category of trade even after six months. Therefore, it was proposed to administer non-parametric test, the chi-square test, to know whether there exists any internal inconsistency in data under analysis. For example, when age is taken into account, irrespective of age groups, whether the answer is in favour of the results of comparative analysis or not. The results of the test proved that there is no difference in their answers. Therefore, it is concluded that the rule content of the training program has been well taken by the trainees.

Independent Handling of Work

The trainees were evaluated in the context of handling the assigned work independently without getting assistance from the superiors or from other subordinates (Table 2; column 2). The comparative analysis revealed that about 64% trainees handled the work independently with learnt input of the training. Table 2 (column 2) consists of result with 5% level of significance. Apart from income and the category of trade, other variables proved to be in favour of independent handling of work. The lower income groups and category 1 and 2 namely (ticket booking clerks both current & advance) were depending on the superiors or subordinates to do the work. Both hypotheses were rejected at 5% significance level.

Handling Complex Issues

Crises management is one of components of the training program offered by the Zonal School. Complex problems rarely occurred. The trainees agreed that they have encountered complex problems in their jobs during time of six months after training (Table 2; column 3). The comparative analysis revealed that about 68% (Table 1) of the respondents applied the learnt skill when they encountered the complex issues. Internal inconsistency has been tested with chi-square test at 5% significance level. All demographic variables excepting the category of trade with the variable of handling complex issues were proved to be insignificant. The employees belonging to the category 1 and 2 namely (ticket booking clerks both current & advance) did not agree that the training input has helped them in solving the critical issues of their jobs.

Administrative Assistance in Applying Skills

It is important that the trained personnel should be given an opportunity to apply their skills whenever the work place of Southern Railway it demands (Table 2; column 4). This perspective has also been touched in this study. The railway organisation facilitating job will generally make the training successful. About 70% of the employees irrespective of their demographic characters agreed that they have the management with willingness to help them in applying their learnt skills. The internal inconsistency was also tested with chi-square test at 5% level of inconsistency. The category 1 and 2 of employees namely (ticket booking clerks both current & advance) believed they don't have friendly administrations to apply their skills learnt.

Ability to Correlate Theory with Actual Work in the Field

The training has been conducted generally within the four walls with some extent of creation of prototype model. However, the real-time experience is different from skills learnt within four walls. One of the important components of any successful training program is to make the trainees to apply the learnt skills when he or she encounters the similar occasion (Table 2; Column (5)). About 68% of the respondents were able to correlate the theoretical inputs with real time situations. However, the internal inconsistency was tested at 5% level of significance. Chi-square result revealed that there existed internal inconsistencies in three demographic characteristics of qualification, income and category of trade. Category 1 and 2 namely, the current and advanced booking clerks trade agreed that they were not able to correlate the theory and the

real-time experience.

Satisfaction in Handling Complex Issues Independently

Reinforcement is the reward for any employee when he or she takes a job willingly. The training inputs may be taken either positive or negative reinforcement. About 65% of the respondents agreed that they have been satisfied when they would take up any job relevant to the application of skills learnt. Again, the internal inconsistency was tested with chi-square at 5% significant level (Table 2; Column (6)). Category 1 and 2 namely (ticket booking clerks both current & advance) belonging to qualification, category 1 of Income and category 3 (ticket checking staff) of trade were not satisfied in handling complex issues independently with imparted skills.

Table 3: Chi-Square Tests on Demographic Characters against Retention, Rotation, Practical Training, Exposure and Updating

Variables	(1)	(2)	(3)	(4)	(5)
	Retention	Rotation	Practice	Exposure	Update
Age	0.17 ²	0.11	0.13	0.98	0.02
Gender	0.00	0.09	0.57	0.84	0.35
Marital status	0.41	0.10	0.79	0.84	0.56
Qualification	0.56	0.50	0.56	0.00	0.41
Income	0.00	0.22	0.19	0.66	0.12
Category	0.00	0.10	0.14	0.18	0.01

Source: Primary Data

Ability in Retaining Rules and Regulations in the Memory

Rules and regulations are generally memorized initially. When they are applied repeatedly, it will be easily remembered. Therefore, this perspective has been incorporated in the study. About 65% of the respondents agreed that they were able to know the rules and regulations by heart. The internal inconsistency was tested again with 5% level of significance (Table 3: column (1)). There existed the inconsistency in three groups like gender, income and category of trade. Male respondents, category 1 and 2 namely (ticket booking clerks both current & advance) under qualification and category 1 namely, current ticket booking clerks of trade disagreed that they were able to retain the rules and regulation in the memory.

Job Rotations and Retentions of the Learned Skills

Southern Railway is one of the biggest public sector undertakings. The employees are generally transferred from one trade to another. Therefore, the training input has been made in such a way that it would suit to any trade and also to contain the needed input for each job. When switching over from one job to another takes place, the employee has to employ the newly learnt skill demanded by the job. This perspective has also been addressed in the study. Majority (63%) believed that the job rotation has helped in retaining the new skills learnt Table 1; column 1 & 2). There existed no inconsistency in their answers (Table 3; column (2)).

Compatibility of Practical Training with Theoretical Inputs

The compatibility of practical training along with the theoretical input has been another dimension this study. Therefore, the opinion on compatibility was tested with chi-square test at 5 per cent significant level. About 65 per cent of

² Significance at 5% level i.e. if the value in the cells is less than 0.05, the true hypothesis is rejected and if it is higher than 0.05, the true hypothesis is accepted.

the respondents opined that there existed compatibility of practical training with theoretical inputs (Table 1). They realized it when they applied the skills learnt through the practical component of the training program (Table 3; column (3)).

Standard of the Theory Imparted

Majority (65%) believed that the standard of the training program has been apt and learnable. The Chi-square also proved to be insignificant when it has come to test inconsistency in giving answer to the question (Table 3; column (4)).

Ability in Updating the Rules Learnt

Majority of the respondents agreed that the rules and regulations learnt through training facilitated updating. The answer given by the respondents belonging to the different categories were tested with chi-square test at 5% level of significance (Table 3: column (5)). Except age groups and category of trade, all other groups agreed that there existed updating in their jobs.

FINDINGS

Under the category of skills learnt, the following findings were drawn. The practical training is relevant to the theory training. The standard of theory is too high and difficult to understand. Enough exposure has been given to work across sections but in reality one sticks to a particular section for a longer period of time. The trainees were able to update the rules then and there keeping in memory the basic rules learnt during training.

With respect to application of skill, the following findings were established. There were few insecurities of application of rules while handling the actual work. The employees were able to handle work directly without any assistance from supervisors/colleagues. Efforts taken by the administration to enhance individual's interpretation of skills is not appreciable some extent.

Under the cognitive section, the following findings have been drawn. The trainees were able to correlate theory with actual work. The respondents derived satisfaction after handling complex issues independently. Under memory segment, they were able to know and apply the rules and regulations by heart.

CONCLUSIONS

The new skills imparted through the Information, Communication and Technology (ICT) have been retained and applied even after fairly long-period by the trainees in Southern Railways. Though, the training programs today achieve the results, few segments of employees are not fully reached. The training may be given to each segment in separate centres. Organisational hierarchy has to be set aside when they assemble together to learn something new through training, which is some extent impossible in the context of the study. It has been found when few categories of trainees were indifferent in answering critical questions due to the status in the hierarchy.

REFERENCES

1. Huczynski, A.A., Lewis, J.W. (1980). "An empirical study into the learning transfer process in management training," *Journal of Management Studies*, 17, 227-240
2. Komacki, J., Jeinzemann, A.T., Lawson, L. (1980). "Effects of training and feedback: Component analysis of behavioral safety program," *Journal of Applied Psychology*, 65, 261-70

3. McGehee, W. (1948). "Cutting training waste," PERSONNEL PSYCHOLOGY, 1, 331-340
4. Miles, M.B. (1965). "Changes during and following laboratory training: A clinical-experimental study." Journal of Applied Behavioural Science, 1, 215-242
5. Neel R. G., Dunn R. E. (1960), "Predicting success in supervisory training programs by the use of psychological tests," Journal of Applied Psychology, 44, 358-360
6. Noe, R. A., Schmitt, N. (1986). "The influence of trainee attitudes on training effectiveness: Test of a model," Personnel Psychology, 39, 497-523
7. Reber, R. A., Wallin, J. A. (1984). "The effects of training, goal setting, and knowledge of results on safe behavior: A component analysis. Academy of Management Journal 27, 544-560
8. Ryman, D. H., Beirsner, R. J. (1975). "Attitudes predictive of diving training success," PERSONNEL PSYCHOLOGY, 28, 181-188
9. Smith, M. C., Downs, S. (1975). "Trainability assessments for apprentice selection in shipbuilding," Journal of Occupational psychology, 48, 39-43
10. Taylor, C. W. (1952). "Pretesting saves training costs," PERSONNEL PSYCHOLOGY, 5, 213-239
11. Taylor, E. K., Tajen, C. (1948). "Selection training: Tabulating equipment operators." PERSONNEL PSYCHOLOGY, 1, 341-348
12. Tubiana, J. H., Ben-Shakhar, G. (1982), "An objective group questionnaire as a substitute for a personal interview in the prediction of success in military training in Israel." PERSONNEL PSYCHOLOGY, 35, 349-357
13. Wexley, K. N., Baldwin, T. T. (1986), "Post-training strategies for facilitating positive transfer: An empirical exploration," Academy of Management Journal 29, 503-520
14. Broyles, India and Murray Tillman (1985), "Relationship of In-service Training Components and Changes in Teacher Concerns regarding innovations", The Journal of Educational Research, Vol. 78, No.6 (Jul. – Aug., 1985), pp.364 – 371
15. Ian D. Simpsona, P.D. Tanwarb, Chittaranjan Andradec, D.K. Kocharb and Robert L. Norris, "The Ebbinghaus retention cure: training does not increase the ability pressure Immobilisation in simulated snake bite – implications for snake bite in the developing world', Transactions of the Royal Society of Tropical Medicine and Hygiene, Volume 102, Issue 5, May 2008, pp. 451 – 459

-
1. Huczynski, A.A., Lewis, J.W. (1980). "An empirical study into the learning transfer process in management training," Journal of Management Studies, 17, 227-240
 2. Komacki, J., Jeinzemann, A.T., Lawson, L. (1980). "Effects of training and feedback: Component analysis of behavioral safety program," Journal of Applied Psychology, 65, 261-70
 3. McGehee, W. (1948). "Cutting training waste," PERSONNEL PSYCHOLOGY, 1, 331-340
 4. Miles, M.B. (1965). "Changes during and following laboratory training: A clinical-experimental study." Journal

-
- of Applied Behavioural Science, 1, 215-242
5. Neel R. G., Dunn R. E. (1960), "Predicting success in supervisory training programs by the use of psychological tests," *Journal of Applied Psychology*, 44, 358-360
 6. Noe, R. A., Schmitt, N. (1986). "The influence of trainee attitudes on training effectiveness: Test of a model," *Personnel Psychology*, 39, 497-523
 7. Reber, R. A., Wallin, J. A. (1984). "The effects of training, goal setting, and knowledge of results on safe behavior: A component analysis. *Academy of Management Journal* 27, 544-560
 8. Ryman, D. H., Beirsner, R. J. (1975). "Attitudes predictive of diving training success," *PERSONNEL PSYCHOLOGY*, 28, 181-188
 9. Smith, M. C., Downs, S. (1975). "Trainability assessments for apprentice selection in shipbuilding," *Journal of Occupational psychology*, 48, 39-43
 10. Taylor, C. W. (1952). "Pretesting saves training costs," *PERSONNEL PSYCHOLOGY*, 5, 213-239
 11. Taylor, E. K., Tajen, C. (1948). "Selection training: Tabulating equipment operators." *PERSONNEL PSYCHOLOGY*, 1, 341-348
 12. Tubiana, J. H., Ben-Shakhar, G. (1982), "An objective group questionnaire as a substitute for a personal interview in the prediction of success in military training in Israel." *PERSONNEL PSYCHOLOGY*, 35, 349-357
 13. Wexley, K. N., Baldwin, T. T. (1986), "Post-training strategies for facilitating positive transfer: An empirical exploration," *Academy of Management Journal* 29, 503-520
 14. Broyles, India and Murray Tillman (1985), "Relationship of In-service Training Components and Changes in Teacher Concerns regarding innovations", *The Journal of Educational Research*, Vol. 78, No.6 (Jul. – Aug., 1985), pp.364 – 371
 15. Ian D. Simpsona, P.D. Tanwarb, Chittaranjan Andradec, D.K. Kocharb and Robert L. Norris, "The Ebbinghaus retention cure: training does not increase the ability pressure Immobilisation in simulated snake bite – implications for snake bite in the developing world', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, Volume 102, Issue 5, May 2008, pp. 451 – 459